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Mr. T. W. Haigh, archi-
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Travis & Wevill..... £1,460
C. & G. L. Descer... 1,457
Hall & Jamieson,
Liverpool† 1,447
A. Lloyd 1,396

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r. Jos. E. Teare, architect,
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, L.O.M.*..... £1,827

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E. A. Williams,
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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3636. OCTOBER 11, 1912.

ILLUSTRATIONS.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER. MESSRS. LANCHESTER & RICKARDS, FF.R.I.B.A., ARCHITECTS.

ILLUSTRATIONS IN TEXT.

	PAGE
SKETCH DESIGN FOR ALMSHOUSES. BY MR. C. P. WADE	405
THE NEW GRESHAM COLLEGE, E.C. MR. SYDNEY PERKS, F.R.I.B.A., AND MR. DENDY WATNEY, ARCHITECTS	406, 407
PROPOSAL FOR NEW CITY THOROUGHFARES	409
MONTHLY REVIEW OF CONSTRUCTION :— THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER, S.W. :— PLANS, SECTIONS, AND DETAILS OF CONSTRUCTION. MESSRS. LANCHESTER & RICKARDS, FF.R.I.B.A., ARCHITECTS	411-415
THE TURNPIKE IN TOTTENHAM COURT-ROAD. CIRCA 1800, AFTER ROWLANDSON	418

CONTENTS.

	PAGE
OFFICIAL ARCHITECTS	401
THE ARCHITECTURE OF NEW DELHI	403
ON BEAUTIFICATION	403
NOTES	404
THE POST-IMPRESSIONIST EXHIBITION	405
TOWN PLANNING FROM AN ENGINEERING ASPECT	405
THE NEW GRESHAM COLLEGE, E.C.	406
GENERAL NEWS	407
BOOKS	408
CORRESPONDENCE	409
INTERCOMMUNICATION COLUMN	409
NOTES TO ILLUSTRATIONS	410
MEETINGS	410
COMPETITION NEWS	410
ANCIENT ARCHITECTURE	410
ARCHITECTURAL SOCIETIES	410
FIFTY YEARS AGO	410
MONTHLY REVIEW OF CONSTRUCTION :—	
NEW WESLEYAN CHURCH HOUSE, WESTMINSTER	411
FACTORY BUILDING VENTILATION	416
THE INTERNATIONAL CONGRESS FOR TESTING MATERIALS OF CONSTRUCTION	416
SAFETY LOCKS FOR AUTOMATIC LIFTS	416
NOTES	417
THE BUILDING TRADE :—	
INLAND REVENUE REPORT: THE LAND TAXES	418
GLASGOW BUILDING TRADE	418
THE LONDON BRICKLAYER	419
GENERAL BUILDING NEWS	419
THE BUILDING TRADE (*contd.*) :—	
APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 TO 1909	419
PROJECTED NEW BUILDINGS IN THE PROVINCES	420
FOREIGN AND COLONIAL	420
TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT	421
LEGAL COLUMN	421
LONDON COUNCILS	421
OBITUARY	422
PATENTS	422
SOME RECENT SALES	422
LIST OF COMPETITIONS, CONTRACTS, ETC., OPEN	423
PRICES CURRENT	424
TENDERS	426

OFFICIAL ARCHITECTS.

WITH the increasing complexity of modern life and the multiplication of public bodies and authorities all requiring buildings for various purposes, the question of the best way in which they can utilise the services of the architectural profession naturally comes to the front. There are many signs that the whole question, affecting as it does the interests of members of a great profession, must be carefully thought out in the near future, and that the Royal Institute of British Architects and its allied societies must, in the interests of both architecture and architects, adopt some definite and well-defined policy.

It is necessary for this policy to be based on one consideration only if it is to carry weight with the public, and that must be the means by which the public are best protected and obtain the services of the best men in the profession on reasonable terms. Architects as a body cannot expect to be favoured at the ratepayers' expense, and must make out a case defensible and reasonable on public grounds.

The present position is this: We have town and county councils who are responsible for public buildings within their areas; boards of guardians, Government departments like the Board of Trade, Office of Works, the Post Office, the War Office and Admiralty, the Home Office, and a number of smaller bodies all having important buildings to erect which are almost entirely carried out by salaried officials.

Most Governments have their own architectural advisers, though in America representations made by the profession have resulted in a large number of commissions for important buildings being placed in the hands of outside architects—a precedent which deserves careful consideration here, where we are disposed to believe the obstacles to a change in the existing *régime* are so great as to render it impossible.

Most county authorities have now their official architects, and since the abolition of the school boards and the relegation of their work to committees of town and county councils these architects usually carry out the schools in their respective areas. The towns and cities for the most part do not employ their own architects, though the London County Council, the Corporations of Manchester, Glasgow, Sheffield, Bradford, and a large number of other towns which might be cited form important exceptions to the rule, and the practice appears to be steadily on the increase. Boards of guardians usually employ outside architects, but their functions may at any time be handed over to other authorities or be exercised by some new department to be created with a corresponding alteration to that which took place when school boards were dissolved and the architects employed by them were replaced by the newly-appointed official architects of the town and county authorities.

On all sides there is abundant evidence that the field of the outside architect is being restricted and that of the official architect correspondingly enlarged. This, though serious from the point of view of the outside architect, cannot be expected to be a point about which the average man will trouble himself unless it can be clearly shown that his interests are affected thereby.

The arguments of a public body in support of appointing an official architect are as follows:—Firstly, it is said that the cost of his salary, plus that of his staff, represents a smaller average sum to the community than the fees of an outside architect doing the same work. Secondly, it is claimed that the fact that he is continuously employed on

similar problems gives him a greater power in mastering them successfully; and, thirdly, it is considered to be an advantage to be able to demand his whole time and to always have him more or less under "control." The latter consideration is not perhaps openly stated, but we believe it appeals to the average member of a public body very strongly.

As to the question of economy, it must be borne in mind that economy in fees may be no economy at all if (as is sometimes the case) it carries with it economy in brain power. To see any set of competition drawings would convince almost anyone of this fact; to see a number of sets of competition drawings would convince most men that there is no certainty, because we find a certain man has thought out the best solution of one problem, that he will be equally successful with another. All we can predicate is that he is likely to produce work of a certain degree of merit and taste, that he will, or will not, be vulgar or commonplace. A further point is that many men's power of work varies at different periods of their lives, and that if a man receives an appointment it is in most cases one which he holds for life, in the period of which his powers may either wax or wane. In this way the public body is taking a risk and committing itself to what in the nature of things can but be an experiment. Again, we may say that it frequently happens that the best men in a profession are conscious of ability, and, this being so, will not, as a rule, consent to take positions which tie them down. For these reasons we feel that the public body will often fail in obtaining the best of all economies—the service of the most able men in the profession.

The second form of economy—the question of the relative remuneration for services under the two methods—is somewhat more difficult to deal with. It is said that one can prove anything by figures, and it is largely true. Naturally, the official when appointed wishes to justify the system, and there are many ways in which this can be done. Certain buildings may be designed several times, and it is easy to make out that certain fees would, as a rule, be paid to the outside architect for each separate operation. As a matter of fact, the knowledge that an architect has to be paid fees renders the employer explicit in his instructions, and most architects know that it is unwise to charge fully for every item of their services, and do not do so. Then, too, there are items for rent of offices, materials, and other details, in some cases superannuation allowances, and the fact that an official once appointed cannot easily be got rid of, whether his services are required at a given time or not, which tend to render the system an expensive one. A borough surveyor's work or that carried out by a town clerk or medical officer must in the nature of things be continuous, or nearly so, but the demand for buildings (even by a large public body) is frequently intermittent. Accordingly the tendency must be to create a staff which can deal with work at a period of maximum pressure, which staff cannot be got rid of when work is less plentiful, whereas the outside architect is paid for what he does and that alone. The tendency induced by the official system is to make work in slack time and to press its necessity on members of the public body who are frequently very naturally largely in the hands of their expert advisers. For these reasons we believe the system is not an economical one for the public either indirectly in leading to the employment of the most competent men or directly in saving by means of paying less in salaries than in fees.

We do not quote figures, as these are difficult to obtain, nor are they of very great reliability or value until they have been carefully examined by independent authorities who have no case to make out either for or against the system.

Another point of the greatest importance to be considered concerns the effect that the growing practice of appointing officials will have on the profession at large. It is easy to foresee a time in which the practice may have grown to such an extent that nothing but a church or a house may remain in the hands of independent practising architects. A fair number of chief officials, say 150 to 200, would be needed at the heads of great departments in different parts of the country; besides these there will be no place for any but subordinates working in different capacities under the heads. These men, some of them good, some indifferent, would for the most part have no chance of making a name by any individual work, however good it might be. The credit of any such work would naturally go to the chief. And another absurdity of the system comes in here. The chief of a big department might be a first-class designer, but the official and routine work involved—seeing committees, supervising, and like matters—is so great that he would have little or no chance of exercising his powers of design. We claim that under the completely organised official system the profession of architecture could offer but few inducements to men of the highest class of ability, unless indeed all other callings are destined to be "municipalised" in a socialistic world, and then all that can be said is that we should be equally unfortunate with others.

We feel that the system cuts clean across two of the greatest inducements to create great architecture, which are the ambition to excel and the natural wish to obtain the individual credit for what is done. Both desires may be selfish, but, though we may be altruistic in contemplative moments, most of the progress in the world has been due to the sense that individual effort resulting in success brings with it an individual reward. We repeat—the safe berth under an official *régime* will not be a sufficient inducement to attract the best man; the chance of rising to the head of an official department will carry with it the certainty of having insufficient time for the chief work of an architect, design; the whole tendency will be to starve the greatest of the arts by making those who wish to practise it do so in a socialistic treadmill; we shall encourage the humdrum man who wishes for a safe billet at the expense of the man who has gifts and ambitions.

We are not discounting the excellent work which has been produced under official systems both for the London School Board and the London County Council; the former, however, was the work of an architect appointed in the infancy of a great movement and an opportune psychological moment, and, however excellent many of the more recent schools are in planning and arrangement, they do not reach the same standard in design as those carried out under Mr. Robson's *régime*. We think that the excellence of much of the work of the County Council is due to the fact that the services of several hundreds of men are available who are largely squeezed out of private architectural practice by the fact that a large bulk of the work in London is the monopoly of the County Council, and, judging by the contemporary public work, there is no reason to assume that the work done would be less efficient or less good if it were placed in the hands of outside architects.

There is little in the argument that only continuous practice in designing one class of building is necessary if the best solution of a given problem is to be reached, and that for this reason the official system is the best. In almost every large competition competitors may be divided into two groups—those with special knowledge of the subject and those without any such special knowledge; success falls, if anything, more often into the hands of a novice in a particular type of building. The fact seems to be that general aptitude and practice in design is the essential required, and, having acquired that, the designer can readily acquire the special knowledge requisite for a special type of building.

In summing up the case we may say that there are, in our opinion, positions in which the services of official architects are urgently needed, but that these positions are those of an advisory and not an executive capacity. There is ample room for the services of men of ability in advising municipal bodies on general schemes of development, in laying down broad lines which should govern their policy, and in seeing that public rights are not infringed upon. But a mistake seems to us to be made when (as in the case of the London County Council) it is given to one and the same authority to act in both the administrative and executive capacities, for in the one they are judging the suitability of outside architects' work, and in the other they are in direct competition with them in supplying public wants.

The work devolving on the head of the architectural department of a body like the County Council is greater than that which the most able member of the profession can be reasonably expected to deal with; the mere organisation of a staff of 400 or 500 men engaged (not in manual, but in mental capacities) would be considered an impossibility for any architect in a private capacity, even though he would be unfettered by the enormous responsibilities which fall on the shoulders of the official adviser of the London County Council.

We may appear to some to take an exaggerated view of the position, but it is reasonable in considering it to think what its ultimate extension will lead to. If it is logically right and reasonable in one case it should be in another, and it follows that if every school and training college which is supported and paid for out of the rates can be dealt with by official architects for the 6,000,000 people in London, the same reasoning may lead to the same result throughout Great Britain. The City Corporation instituted a competition for the Central Criminal Courts; the County Council, on the other hand, propose to give their architect the new Sessions House. We may be sure that more and more public work will be carried out as time goes on at the public cost. The question to be decided is whether or not we wish the architectural profession to occupy the position of Civil Servants.

THE ARCHITECTURE OF NEW DELHI.

THE *Times* of the last week has contained some notable contributions on the question of the type of architecture which can be most fittingly adopted for the new centre of Government of the Indian Empire. These closely follow on the theme suggested by our leader on "Imperialism and Architecture" in the issue of September 27. In the *Times* of the 3rd the subject is discussed in a long and able article by Mr. Herbert Baker, as well as being referred to in a leader, and on the 7th Lord Curzon has contributed an interesting letter full of sound suggestion, and the subject is further dealt with in a letter by Mr. E. B. Havell on the 8th.

We are glad to note that both Mr. Baker and Lord Curzon agree in considering that it would be a mistake to follow any native style. The latter aptly puts it that "First and foremost it is the spirit of British sovereignty which must be imprisoned in its stone and bronze"; and also "If the question is left to politicians they may not improbably, as is their wont, seek some spurious compromise which would be defended as a generous appeal to the natives of India in their art and history."

Mr. Baker discusses the various styles which might be adopted, dismissing Moghul and Saracenic architecture as being alien to Hindu sentiment, and concludes by pointing out that in our own architecture of the period of Wren and Chambers we have a basis on which we might reasonably work for the new capital, and points out that the very fact which rendered the adoption of the architecture of the Renaissance here a slow and gradual process was its greater suitability to such a climate as that which is possessed by India.

Lord Curzon, in rejecting the idea of trying to adopt any Eastern style, says: "What will be the use to which the new buildings will be put when erected? Will it be a use that finds any parallel in the purpose for which the masterpieces of Indian architecture were raised which excite the admiration of every observer?"

In a following paragraph he very ably analyses the entire differences which exist between these two purposes, and sums up a convincing letter by suggesting that a "colonial adaptation of the Palladian style" is that which appears to be most suitable for the new capital, but adds that he is "far from suggesting that it should be reproduced in its severe and inartistic simplicity at Delhi," and that it "might be possible to adapt some richer and more imaginative variant of the classical conception" as evidenced in Spain and other southern countries.

He feels that the selected architect "may in the models which he sees round him, in the spirit of the East, or in the talents of native craftsmen," find something which will "give a similar native flavour, a native *aura* to the forms of the West."

Mr. Havell's contribution to the controversy is one of the familiar appeals to build in the indigenous style of the country, which, we feel, is hardly sound, nor does the claim rest on a sufficient logical basis.

India is not, and never has been, "a country." It is a convenient geographical expression for the land lying to the south of the Himalayas; a land which is an epitome of a continent, containing people of every conceivable religious creed and race; a land which has not, even in the great days following the Moghul conquest, been completely under one sovereignty till the days of our own Empire. When Mahometan hates Hindu and Hindu Mahometan, and where both consider the Buddhist and Christian alike as followers of illusions, it would, for political reasons alone, be a mistake to adopt a style which must be identified with one and not all of the races which alike are ruled by the British Raj.

Nor is there any reason why we should work in fetters because those of another faith have done so. The Mahometan must eschew all forms of nature and life in his ornament, contenting himself with intricate pattern-work. The Hindu styles are characterised by a mass of ill-digested ornament having their basis in a mythology alien to us and to Mahometan alike.

While we agree with the greater part of Mr. Baker's article, we feel that it would be a mistake to adopt an English type of Renaissance for our starting-point, because it has been by Wren and Jones so absolutely adapted to the wants and requirements of our own climate.

The starting-point should, we believe, be that of the purer and more ascetic type of the Italian Renaissance, the true heir and successor of Roman architecture modified to suit the wants of modern life, and even here there must be reservations and differences imposed by the circumstances of the problem.

The Italian Renaissance was the product of a period in which some of the greatest and most gifted of individual art workers lived.

It would be clearly impossible to import into India great numbers of individual workers; the bulk of the work must be such as can be consistently carried out by natives. This means the general avoidance of sculpture other than carving, which may be described as "ornament," a greater determination to seek satisfaction in mass and simplicity and a general avoidance of what is complicated and difficult in construction. We believe in building in all Eastern countries it is also necessary to allow for the fact that the native workman has to use materials not as good as those generally used here; allowance has to be made for a greater surplus of strength and mass than would be necessary under European conditions. All these difficulties will not, however, prevent the carrying out of architecture in a broad Imperial spirit like that which distinguishes Roman architecture, and we may hope that, fired by the determination to mark fittingly the greatest glory of our history—the wise and beneficent government of the toiling millions of India—our architects may take a departure which will add new achievements to the history of architectural development.

ON BEAUTIFICATION.

AS a pastime we have lately visited a number of old churches, pointing out to our companion this and the other thing of interest—a Norman chancel arch, mediæval arcading, a window, anything, in fine, representing style in the manifold variety of many centuries, or which helps to explain the growth of a building from its foundation—to make conversation upon, or to criticise indulgently, as one does unconsciously with all old things. The red-lacquer and gold of some poppy-heads, fragments of ancient glass, an epitaph more curiously worded than the wont, or a fine piece of groining would move us with a fresh delight again and again. Yet—and we speak it with sorrow—our delight was tempered with regret, for always some base metal peeped out blatant and unmistakable from the fair coin stamped by the centuries. The alloy was the XIXth century.

We do not here speak of "Restoration," which is bad enough, but for which some excuse may be found in the inclemency of our climate, but of "Beautification." It would be almost safe to say that no church in England, however poor, but has found money to indulge itself in this vice. The metropolitan cathedral of St. Paul called it "decoration" and covered its walls with mosaics, until either from lack of funds or adverse public opinion a period was put to the works. It is supposed to be an added merit that these decorations are done after an ancient mode, that the tesseræ are laid *in situ* with wide interstices between them. We have, however, seen the mosaics of St. Mark's, at Venice, and those at Palermo; we have, again, seen some of the most exquisite panels built up of minute tesseræ taken from Pompeii, and do not find that the St. Paul's mosaics bear any resemblance in style or effect to either of these kinds of works. It does not matter to which goal we aim so long as we arrive there, but when we attain elsewhither it were wise not to notify our ineptitude to the world.

These decorations are neither better nor worse than many we have seen lately;

only from the publicity given to them, from the importance of the building in which they have been placed, they are known to everybody.

This recollection was induced by a pulpit, "remarkable," as the guide-book says, "for its beautiful modern mosaics by Dr. Salviati, of Venice," but which in reality is a very indifferent specimen of a poor kind of work. Not to put too fine a point on it, the pulpit is vulgar—its effect, placed as it is in the dimly-lighted space in front of a splendid chancel, which is raised by many steps to an unusual height above the nave, is like the braying of brass instruments, breaking the fine filigree of Mozart music. This is not all, for the reredos is little better; it does not, it is true, strike so blatant a note as the pulpit, it is merely a discord. It "has figures carved out of a single block of Carrara marble by Mr. ——, R.A.," and represents "the Entombment of Our Lord." The inference is that the reredos acquires merit because of the material in which it is made, or because of the fragment of the alphabet at the conclusion of the author's name. We have seen so many beautiful "entombments" that we looked naturally for imagination, dignity, knowledge of the human body, for some quality capable of invoking pity, in this work. We could find none, nothing to touch one with a sense of reality, with any sense of beauty, with the Divine significance of the subject. A Victorian sentiment seems to pervade the whole conception, to inspire the stiff attitudes of the ministering angels, filling out their poor draperies with we cannot express what insipidity. But enough, it is unnecessary to give its details, which are all conceived in the same spirit.

Our peregrinations brought us to the top of a considerable hill, whence, on a fine day, can be seen the coast of France. It was once a Roman town having a port at the foot of the hill. Now a small Norman church rests there like a lonely tired sentinel, looking over the changeless sea. Obviously it has stood for many centuries, and will stand. It has not been much restored; many curious features telling of exigencies in the construction are still apparent. The story is so easy to understand that he who runs may read. Yet the "beautifier" has introduced a solecism into the direct and simple narrative. At the east end, above the altar, he has introduced a row of trefoil arches filled in with saints in mosaic; whether laid in the ancient or modern manner does not really matter, for they are very garish and ugly. Nothing could well be more unnecessary, nothing more certain to blot the fine 'scutcheon of simplicity which the tiny building displays. Yet obviously it was a thing of cost, this mosaic, and the church goes naked of proper benches and the like.

Perhaps it is only a font which obtrudes its commercial origin into what has always been a work of love, but it is sufficient to show the careless tendency of that dreary penultimate period, late Victorian. In our wandering we saw several of these, whose trite symbols were elaborately explained in the printed cards put up for the information of visitors, but which, beyond their very obvious utility, could have no kind of æsthetic purpose whatever. Many of the churches were decked out with imitation mediæval pews in pitch-pine, with machine-cut poppy-heads at so much a hundred; others, again, had bright-brass altar-rails, pseudo-Gothic in the ornaments, XIXth century in the essential or rigid constructional portion of the thing; some were "beautified" with cheap oil-lamps, some with cheap lacquered brass memorial plates. And yet cheek by jowl with them would be splendid Dutch candelabra with their great bulbous bodies and tier upon tier of candles, or mural tablets with goodly lettering, or those quaint old brasses with stiff effigies of knight and lady engraved on them. The pomp of heraldry in all its richness and variety finds a place on the walls of these churches side by side with whited sepulchres of the same in white marble.

The goodly carpet of the earth with its flowers, the floor of the sky "patined with bright cloud," are things to which the Church turns continually for illustration of what is comely and beautiful. Yet she fills her chancels with flooring of the most garish kind. The rude paving of quarry-tiles or stone, the fairer pavement of marble, are replaced by painted tiles of the most mechanical and ugly kind, without any apparent sense of the incongruity of such a proceeding.

These things, and many others which it would be too tedious to enumerate—bad as they undoubtedly are—are not yet so flagrant as entirely to spoil our pleasure in an old church. But the modern stained-glass window does. We do not wish it to be thought that we deprecate the work of certain artists in this most difficult branch of art. We wish them well, and only desire to see more of their work, but the usual kind of stained-glass window we should like never to see again. In one church, during our pilgrimage, we saw designs for such windows, pinned up with the intention of extracting money from the sentimental traveller to convert them into glass. Each design was marked with a price, significant enough of the kind of work to be expected, if that were not clearly enough implied by the firm of glass-stainers whose signature flourished in a corner of the drawing. We tried to fortify ourselves with the recollection of windows we had seen in Florence, hung up, with richer colours dight than those of Nature, between ourselves and the light; of the rich mantle of colour formed by the windows of York; of the flamboyant glory of the late glass of Fairford Church, without being able to reconcile ourselves with these designs.

A dim religious light is not obtained by shutting out the light of day; it is rather a quality derived from certain principles of design, which begin with the foundations and work up through "the fretted aisle" to the roof. As larger windows became the fashion, the poet's "dim religious light" was banished until the daily coming on of evensong. But the modern system is to break up the light by means of painted glass in a million kaleidoscopic colours. Better far is the window of plain quarries! We all laugh at "Munich glass," but much modern glass is in effect little better.

Yet our pastime has not proved unfruitful, for we have seen many old churches whose every stone is pregnant with story, and which have a soul of their own that cannot altogether be destroyed. Yet it seems most regrettable that the clergy and their congregations do not take the best advice before "beautifying" their churches. In most cases they have a noble nucleus to work upon, very often from a religious and human point of view beyond the means of modern art. Yet they encourage and give admission to what is not art at all, but a spurious thing bought and sold at shops.

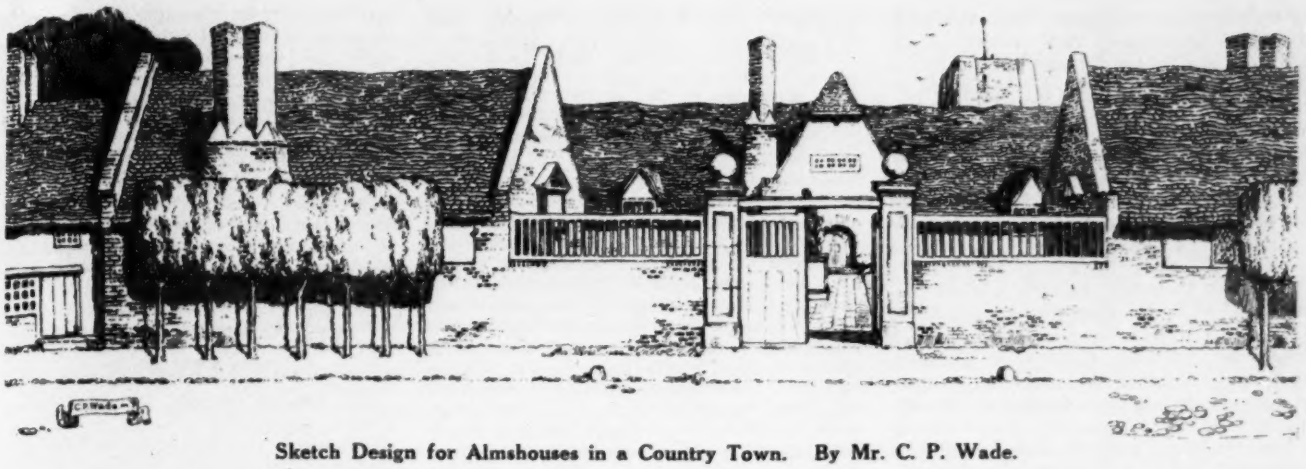
NOTES.

The Profession and Its Rewards.

We are used to blame, and not to pity, which renders us doubly grateful for a letter in the *Westminster Gazette* by Harold Begbie, entitled "The Profession and its Rewards." We often feel we are ill paid, but it is balm to our souls to be told that this is indeed so. Mr. Begbie points out the ridiculous remuneration which an architect receives for his labours in designing a small house as compared with the literary agent or other professional worker. "Men," he says, "become architects because they love the art, or because they have no energy to do anything else." We have heard of many reasons for the choice of an architect's career, some good and some bad, but never the latter, and we should be inclined to say that such a man would find he had made a grievous miscalculation, as we think few callings require more energy and, we might add, patience. But as to the question of remuneration, we feel the profession may complain somewhat unjustly. The bulk of people who build small houses have to consider every pound. The abused 5 per cent. is a minimum; it is for us to say whether we will charge more, if we can afford to let the work go. Very often it would mean our possible client going straight to a builder. We quite agree with Mr. Begbie's graceful appreciation of the work of our younger men.

St. Vedast's and the Traffic Problem.

The *Times*, in a short article entitled "City Traffic and St. Vedast's," in its issue of the 5th inst. calls attention to the dangers which may threaten St. Vedast's if the question of the new Post Office extension is not considered in relation to possible traffic developments, which will be rendered still more urgent when St. Paul's Bridge is opened. In saying that "the opinion of competent architects should be taken before great works involving large architectural issues are sanctioned" the *Times* is doing service both to architects and to the public. We called attention to this most important subject some weeks ago (p. 195), and in this issue publish a further letter on the same subject, and we are of opinion that these suggested plans should be carefully considered by those in authority before being relegated to the limbo of impossible schemes.



Sketch Design for Almshouses in a Country Town. By Mr. C. P. Wade.

Croydon By-pass.

THE Croydon Borough Council having at last adopted a scheme for a new road from Thornton Heath to Purley, which will divert the through traffic from the centre of the town, it is to be hoped that the last has been heard of the threatened destruction of Whitgift Hospital, against which we have so frequently protested. Archæologists and all lovers of antiquity may now join hands with town-planners in approval of the scheme. There is little doubt that in the great majority of cases this method of creating by-passes where main traffic routes pass through towns and villages is a sound one. Where the widening of the main street of a town would involve the destruction of artistic or historic monuments it is the only conceivable one. Properly handled, a new road skirting a village or town may be made a source of added beauty. The junctions with the old road more particularly afford opportunities for some skill in arrangement, if only in the artistic grouping of trees. No doubt the Croydon Borough Council will bear in mind this aspect of the question. Owing to the general road widening that is now in progress throughout the country this problem may be expected to present itself frequently, and will, we hope, be solved in the same way.

The Grosvenor Gallery.

A NEW gallery for the exhibition of pictures has opened in Bond Street and taken the name of the Grosvenor Gallery. We do not happen to know under whose or what auspices it is started, but Mr. Martin Wood's name appears in the catalogue as Secretary and Curator, and, apart from the present exhibition, the exhibitions of the International Society, the National Portrait and other societies are to be held within its walls. In the months of June and July we are to have an exhibition of the works of Albert Besnard, which will be welcomed by all who are interested in French painting. The galleries themselves are charming, and if the method of hanging and arrangement of the present show are adhered to in future exhibitions we shall be able to look at pictures with much greater pleasure than is the case at most galleries. The crowded element to which we are accustomed, and which is not less trying to the pictures themselves than to the spectator, is wholly absent. All the pictures are shown to excellent advantage; there is no confusion or awkward contrast, so that the general effect is serene and harmonious. The inaugural exhibition is promising. It is not restricted to unexhibited works, but the admirable arrangement, in which there is no skying, often presents a familiar work in a new and more attractive aspect. We noticed this particularly in regard to a picture of Mr. Strang. The artists represented are among the more advanced men of the British school, including the present and future Academicians of the Chelsea group. Mr. Philip Connard, Mr. Alexander Jamieson, and Mr. G. W. Lambert all show characteristic work. The entrance hall is occupied by some striking lithographs by Mr. Pennell. Mr. Charles Sims has "In the Coming of Spring" sent one of his happiest compositions, in which a nymph and children (there is genuine inspiration in Mr. Sims's observation of the charm of infant life) are disporting in an Italian landscape. And there are many other delightful works. But the exhibition conceals a mystery. One of the rooms is devoted entirely to the work of Walter Greaves. We were unable to ascertain from our cursory glance that any of these pictures had a date or a signature. On entering the room we felt momentarily that we had been transported to the gallery at Millbank, where Whistler's nocturnes and symphonies have recently been on view. Here were all Whistler's effects over again—the "Cremorne," the "Grey and Silvers," and the rest. What is the explanation of the mystery? Has Mr. Greaves up his sleeve, as it were, further stores of accumulated works with which to fill galleries at request—or what?

THE POST-IMPRESSIONIST EXHIBITION.

THERE can be no finality in artistic points of view; opinion here, as in other regions of thought, is susceptible of ebb and flow, and readjustments will from time to time occur which make for artistic life and progress. With the best will in the world, however, we are unable to sympathise with the intellectual readjustments which the present exhibition of the Post-Impressionists at the Grafton Galleries would impose. Nor do we take the show of pictures altogether as a joke. We know too much about the history of the movement for that. It is certainly no matter for mirth to its disciples, and it has secured adherents among men of eminently serious ability both abroad and in this country. The movement cannot very well be dismissed as one of no importance. To ourselves it is interesting not as a manifestation of art, but as a curious intellectual phase of the human spirit in the early part of the XXth century. The Post-Impressionist movement is not an art movement; it is essentially a movement of criticism; it is, we daresay, in some of its aspects idealistic; it is, above all, a movement of theory and experiment. We suggest that it is a movement of criticism because it seeks to revolutionise hitherto accepted standards, and it is idealistic because in a spirit of strange asceticism it rejects any appeal to the merely sensuous. We are not prepared to discuss its theories, not because they appear to us illogical and, in some instances, irreconciliable, but because any new appearance in art is not a matter of theory and criticism but of creation. In a general way the history of art may be summed up, first, by the painting of this picture or that, by the modelling of this piece of sculpture or that; this is followed by the explanation of the person who looks on, the critic, as to the impulses which stirred the artist in the birth and elaboration of his conception. Here æsthetic considerations and theory step in. So far as the artist himself is concerned, he is often silent, but if he formulates a theory at all it rarely precedes the creation of his work. Theory in any case with an artist is, in the first instance, subconscious, and if it is developed later it is usually formulated according to the measure of his own competence in a certain given direction; which is to say that it is personal, not abstract. There is in nature no such thing as an artist whose theories are not influenced by his own capacity. All, however, that we wish to imply is that theory does not precede artistic production, but follows it and completes it. And so it is with the Post-Impressionists, or rather (because there is a difference), so it was. If we trace for a moment the history of the movement, what do we find? We find that the end of the last century produced in France three artists of intense individual talent (it is too early yet to call it genius), Cézanne, Gauguin, and Van Gogh (who was of Dutch extraction), who were drawn to the art of painting by some natural and idiosyncratic desire for that form of art expression. They painted, for the most part, pictures that were unsaleable, or only saleable at a price which provided not a living, scarcely *du pain sec*; their brother artists and the critics said that they could not draw and could not paint. They lived more or less their individual lives in poverty and died without any sort of recognition that could matter to them. Two of them, at least, Van Gogh and Gauguin, probably desired to paint the same sort of pictures as their more successful fraternity among the Impressionists, but they were barred by their own freakish and personal instinct, by their limitations, by what we

may call defects in character, from attaining the artistic standard of their period. They could not subordinate their temperament, their view of nature, and the general spectacle and emotion of things, to conditions other than those which had been imposed upon them by their own temperament; and they probably found small consolation for their want of success in the fact that they could not be other than themselves. It would be absurd to argue that these men were the slaves to a conscious artistic theory, that their life was devoted to the fulfilment of a programme in æsthetics, or that they were propagandists in a new cause: although they were probably all these. That they could not draw or paint is now almost a forgotten animadversion. So far as drawing is concerned, we have only to look at the photographs of their work which are on view in the small room on the staircase which leads to the exhibition at the Grafton Galleries to realise that it possessed qualities denied to artists of more correct performance. Those who were wont to laugh at their work do so no longer. Collectors and dealers have begun to find their profit in these so-called "Old Masters" of the Post-Impressionist movement, and trade does not throw away its money on works of art which have not an intrinsic as well as a commercial value. Critics have built up artistic theories on these productions, and later painters have imitated them. The result is the present exhibition at the Grafton Gallery—and Henri Matisse!

In many respects the exhibition is frankly ridiculous. It is an exhibition of theories, and of absurd theories. The field which they offer for genuine artistic incompetence is sufficient proof of it. It would not, we think, be difficult, in any case, to show the fundamental error of formulating a series of art principles on the work of the artists who are hailed in this movement as its precursors. With some few exceptions (and we would particularly include the Russian group of artists whose work often expresses real visionary power), the members of the Chelsea Arts Club could within a month provide a show of equal merit without asking us to take it seriously. Sincere and creditable art does not lend itself so readily to facile imitation. We have, we believe, read most of the literature which has been published on the Post-Impressionists; it makes delightful reading; it is so eminently serious and well done. In the quality of this writing there is not a touch of Post-Impressionism, and the arguments which occasion it are worth thoughtful attention. But the illustrations, as presented at the Grafton Gallery, do not justify all this bolstering up. The time has probably arrived when we shall see some change in the painter's convention; in every phase of art, as indeed in every phase of life, there are suggestions that the modern world is in the travail of a Renaissance. The outcome will undoubtedly involve new points of view; it may establish a new order of things. We are all perhaps waiting for it, some so anxiously that even such passing expressions of misapplied theory and affectation as the exhibition at the Grafton Gallery are, for the moment, taken seriously.

THE BRITISH SCHOOL AT ROME: SCHOLARSHIP IN ARCHITECTURE.

Candidates who are eligible to compete in the Open Qualifying Examination for the Scholarship in Architecture at the British School at Rome, offered by the Commissioners for the Exhibition of 1851, particulars of which were announced in the *Times* on August 17, must apply in writing to the Hon. General Secretary, British School at Rome, 54, Victoria Street, London, S.W., for particulars of the subject set for the examination on or before October 31. The subject will be forwarded by post on November 5 to intending candidates, who must be careful to write distinctly in their applications their full names and addresses.

TOWN PLANNING FROM AN ENGINEERING ASPECT.

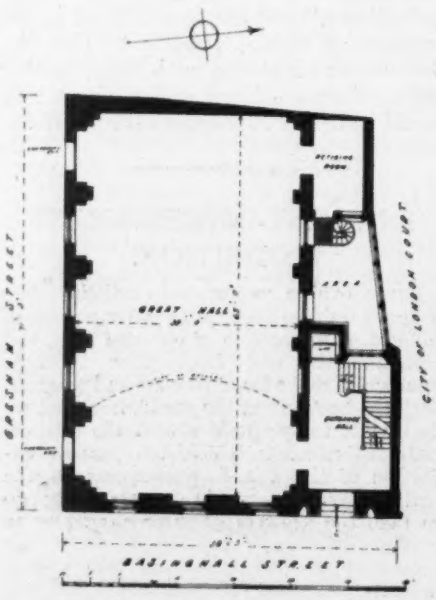
AT a meeting of the Society of Engineers (Incorporated), held on Monday, a paper on "Town Planning from an Engineering Aspect" was read by Mr. Ernest R. Matthews, Assoc.M.Inst.C.E., F.G.S.

The author divided his subject under two main headings:—(*a*) Town planning in a residential district, and (*b*) Town planning in a manufacturing area. He illustrated the former by a brief description of Bridlington's town-planning scheme, and stated that one of the principal points to be considered in the preparation of a scheme was the direction, width, and method of construction of main arterial, secondary, and subsidiary streets. He suggested that these should be 75 ft., 50 ft., and 28 ft. or 30 ft. in width respectively, that they should be constructed of tar macadam with grass margins, asphalt footways, and trees, and that the buildings should be set back 25 ft. in the 75-ft. and 50-ft. streets, and 20 ft. in the subsidiary streets. He gave a description of the method of construction that he would recommend for the foundation of the streets and for the tar macadam roadway. The author did not agree with the idea of making the foundation of the roadway in a subsidiary street less substantial than that in a wider street. He deprecated the practice of putting in heavy kerbing and flagged footways in residential districts, and thought that grass margins with asphalt footways not only effected a saving in cost, but presented a more rural and pleasing appearance. He thought that the road requirements of our by-laws were unreasonable, and resulted in houses being built with a narrow frontage and deep back, instead of a wider frontage and shallow back, which he considered far preferable.

In designing a town-planning scheme it would sometimes be found necessary to allow for the widening of some of the existing roads, and also of the diversion of certain public footpaths; this had been so at Bridlington. Open spaces should be left for parks, tennis-courts, bowling-green, children's playground, garden enclosures, sites for public buildings, etc.

The sewerage and sewage disposal of the area were matters of great importance, and the engineer must ascertain if the existing sewers and disposal works were capable of taking the drainage from the proposed area, also whether the levels permitted the area to be drained into the existing sewers, and he must devise a scheme for dealing with the storm-water. The lighting of the area by means of gas or electric light was also a matter of great importance, as was that of water supply.

Town planning in a manufacturing area was very different from that of a residential area, and the points which must be considered include:—(1) The position of the proposed industrial area; (2) its proximity to railway sidings; (3) the facilities for vehicular traffic to and from this area; (4) the necessity for constructing any new roads leading to this area in a substantial manner, so that they would carry the heavy traffic likely to come upon them (4A) the provision of roads for rapid and slow traffic; (5) the area to be occupied by workmen's dwellings; (6) the supply of electrical energy for power and lighting purposes; (7) the position for wharfage if water carriage is available; (8) supply of water and gas; (9) sewerage and sewage disposal; (10) disposal of storm water; (11) size of area; (12) direction of prevailing winds; (13) advisability of constructing subways under the main arterial roads. Several other points were of equally great importance from the engineer's point of view.



The New Gresham College, E.C.

THE NEW GRESHAM COLLEGE, E.C.

THE site of the new Gresham College has a main frontage of over 71 ft. to Gresham-street, and a return frontage of over 58 ft. to Basinghall-street. The building is now in progress. Portland stone will be used.

The contents of the building will be as follows:—

The basement will contain large lavatories, a heating chamber, and ample provision for storage purposes, etc.

The ground floor will contain the Great Hall, about 65 ft. long by about 40 ft. wide; this, with a gallery at one end, will provide accommodation for about 500 people. There will be a retiring-room for the professors, and a main entrance hall in Basinghall-street; there will be two large folding doors as extra exits direct into the street in case of alarm. There will be an electric lift from the entrance hall for access to the gallery and all upper floors.

The first, second, and third floors will be available for letting as offices. Each will be divided into rooms as required by the tenants. Certainly eight good rooms can be provided on each floor. The committee-room and office of the Gresham Committee will be on the third floor. The fourth floor will contain six offices and rooms for the caretaker.

By an arrangement with the Corporation of London an agreement was entered into which has enabled the Gresham Committee to build a much finer hall than was at first contemplated. The right of way into Basinghall-street has been abolished, and will be built upon, and the yard between Gresham College and the City of London Court will be partly built over, consequently the Great Hall is nearly 5 ft. wider for its entire length than it would have been had the arrangement not been made, and the entrance hall will be 6 ft. wider and about 5 ft. deeper.

The agreement entered into is mutually beneficial in that the City of London Court can now be raised considerably.

The design for the building (p. 407) was exhibited in the Royal Academy and will be carried out subject to certain alterations made by the Gresham Committee—*e.g.*, there will be no bay windows or main pediment to the Gresham-street façade.

The contractors for the foundations were Messrs. Cubitt & Co., and the contractors for the superstructure are Messrs. Holloway Bros. The total cost of the building will be about 28,000*l.*

The architects are Messrs. Sydney Perks and Dendy Watney.

GENERAL NEWS.

The New Penny Postage Stamp.

The new penny postage stamp has been issued. The head of the King is the same as in the new twopenny stamp, which was issued a few weeks ago. The head of the King is the same as on the coins designed by Mr. Bertram MacKennal, A.R.A.

Middlesex Memorial to King Edward.

The Duke of Bedford presided on Tuesday at the Caxton Hall at a meeting of the Executive and General Committee of the Middlesex Memorial to King Edward VII. After inspecting the work of nine different sculptors who had at some time or other executed likenesses in marble of the late King the Sub-Committee recommended to the Memorial Fund Mr. P. Bryant Baker, of Fulham-road, Chelsea, for the execution of the bust of King Edward which it is proposed to place in the Middlesex County Hall at Westminster. It was agreed that Mr. Baker should be commissioned to execute the bust.

Sanitary Institute Congress at Exeter, 1912.

The Council of the Royal Sanitary Institute have accepted an invitation from the City Council of Exeter to hold the next Congress and Exhibition of the Institute in Exeter from July 7 to 12, 1913.

The Guildhall Improvement.

A special meeting of the Corporation was held at the Guildhall yesterday to discuss the scheme and plans submitted by the City Lands Committee for the improvement of the Guildhall. Three amendments were on the agenda. Mr. Brinsley-Harper proposed that the scheme be referred for consideration and report to three architects to be nominated by the President of the Royal Institute of British Architects and approved by the Corporation. Mr. J. Ganton, F.R.I.B.A., suggested that the scheme should be entirely remodelled to allow the proposed Court on either side of the Guildhall-yard to be properly planned, lighted, and ventilated—the whole being dominated by the Art Gallery—and that the design generally should be revised with a view to keeping the height of the new buildings of the east and west sides of Guildhall-yard below the height of the existing front elevation. Mr. H. P. Monckton, F.R.I.B.A., suggested that the Committee should obtain designs from six architects to be selected by the Committee and submitted to the Court for their final choice of one of them.

The Danger in the Use of Celluloid.

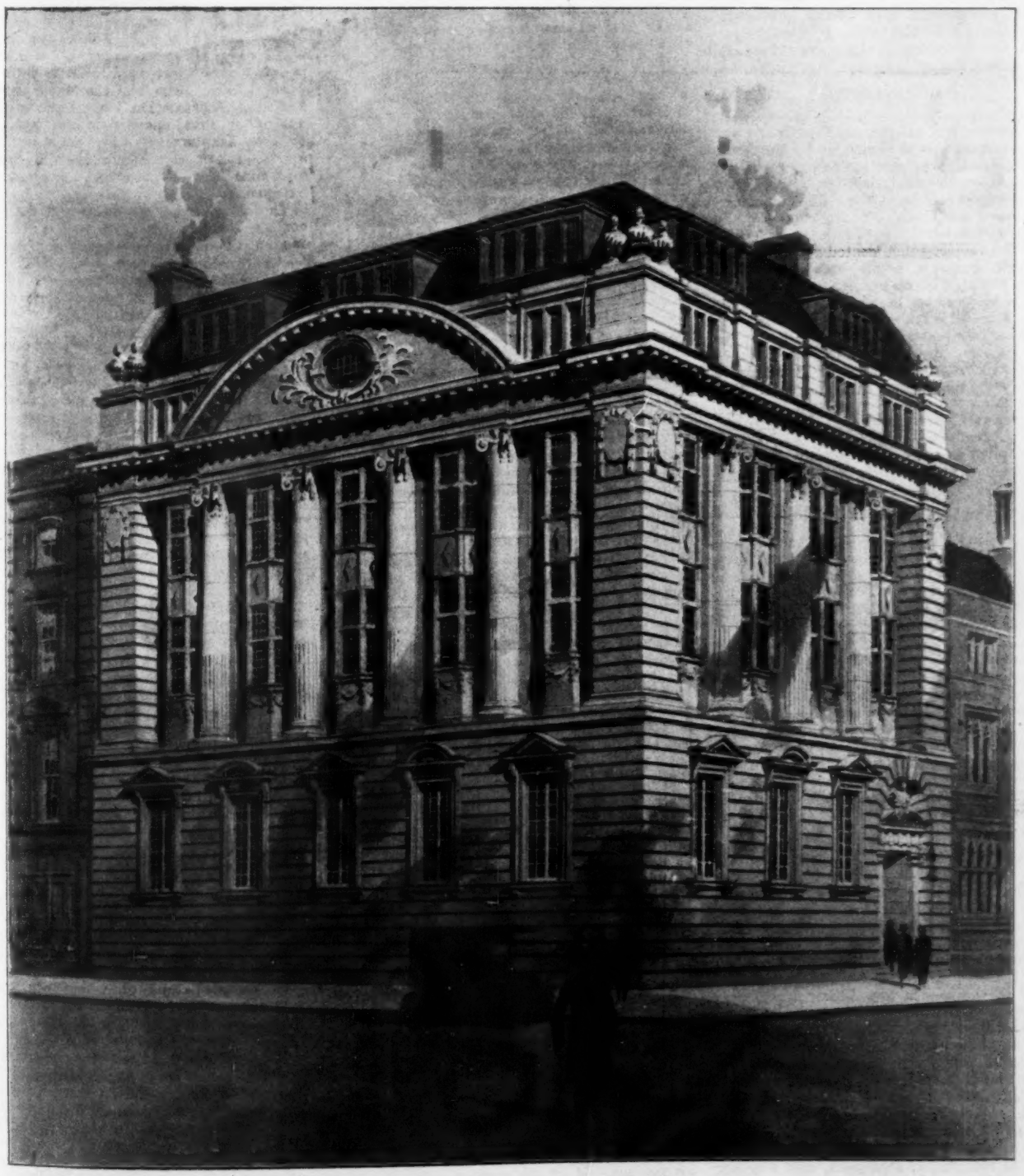
The Home Secretary has appointed a Committee to inquire and report as to the precautions necessary in the use of celluloid in manufacture and the handling and storage of celluloid and celluloid articles. The names of the members of the Committee are:—The Earl of Plymouth (Chairman); Professor James J. Dobbie, D.Sc., LL.D., F.R.S., Principal Government Chemist; Captain Maurice B. Lloyd; Mr. H. M. Robinson, Deputy Chief Inspector of Factories; and Mr. Edwin O. Sachs, F.S.S. (Edin.) Chairman of the Executive of the British Fire Prevention Committee.

The "Dip" in Piccadilly.

In view of the rebuilding about to take place on the site between the Savile Club and the Junior Athenæum Club, the Westminster City Council approved a plan prepared by the City Engineer showing an improved level which would get rid of the existing "dip," provided the necessary arrangements could be made. The plan also proposed a setting back of the railings of the Green Park to allow of a widening of Piccadilly westwards from the Ritz Hotel. In a report which was to come before the City Council yesterday the Improvements Committee recommend the Council, in view of the opposition to the proposal, not to proceed further with it at present. The report shows that the Savile, Isthmian, and Junior Constitutional Clubs object to the scheme for raising the "dip."

Lectures on Reinforced Concrete.

A special lecture and practice course of fifteen lectures on "The Principles of Design in Reinforced Concrete" is being delivered at the London County Council Westminster Technical Institute, Vincent-square, S.W., by Mr. Percy J. Waldram, F.S.I., on Fridays at 7.15 p.m. The series commenced on the 4th inst. The course is designed to meet the needs of architects and architectural draughtsmen. The theory and construction of all formulæ are explained, and a large number of diagrams have been prepared by means of which the formulæ can be used without calculation. Arrangements have been made for making and testing experimental beams and members.



The New Gresham College, E.C.

Mr. Sydney Perks, F.R.I.B.A., and Mr. Dendy Watney, Architects.

(Royal Academy Exhibition, 1912.)

Examples of design will be worked out during the lectures, which will be illustrated by diagrams, models, experiments, and lantern slides.

Disfigurement of Runnemede.

The Egham Urban Council have resolved to ask the Postmaster-General to accord his consent to the laying underground of the telephone cables across Runnemede, instead of the erection of unsightly poles. The matter, we gather, has also engaged the attention of the Society for the Protection of Ancient Monuments.

Kingston Bridge.

Operations for the widening of the bridge have just been begun, and a temporary bridge will be erected for traffic when the present bridge is closed. Mr. Basil Mott, C.E., has made the plans, which will involve an outlay of some 64,000*l.* for constructional work that will occupy about eighteen months.

Dee Bridge, Chester.

Sir Francis Fox, C.E., has made an examination of the old Dee Bridge, and, in the result, steps have been taken, under his advice, to repair some cavities in the masonry caused by the continued scouring effects of the stream. The bridge was built towards the end of the XIIIth century at the crossing of the river, guarded by the castle, on the south side of the city.

British Museum.

The principal trustees have appointed Mr. George Francis Hill as keeper of the Department of Coins and Medals in succession to Mr. H. A. Grueber, F.S.A., who retires from the service; and Mr. John Alexander Herbert is appointed assistant-keeper, Department of Manuscripts. Mr. Grueber was the author of "Coins of the Roman Republic in the British Museum," 1910, 3 vols., the subject being treated geographically and chronologically, with catalogue, tables, indexes, plates, etc. Both Mr. G. F. Hill and Mr J. A. Herbert are the authors of important books. Mr. Hill is known not only by his works on numismatics and allied subjects, but by his "One Hundred Masterpieces of Sculpture"; and in 1911 Mr. Herbert published "Illuminated Manuscripts," the result of much research. The retirement at the close of the current month, after forty-two years' service, is announced of Dr. G. K. Fortescue, keeper of Printed Books, who compiled and printed a most useful catalogue of books upon British topography in the Museum.

The National Trust.

The National Trust appeal for 600*l.*, the balance of the purchase price, 4,000*l.*, to save from building operations (already begun) the head of Windermere and of Borrans Field, where, and around, have been found the remains of an important Roman settlement, with a fort constructed of stone. Contributions also are asked towards the purchase of Finchamstead Ridges, being 60 acres, and portion of the late Mr. Arthur Walter's Bear Wood estate, Berks, at a price of 3,000*l.*, towards which Mr. John Walter has promised 500*l.*, and further subscriptions of 2,000*l.*, or more, have been made. The acquisition of the land will preserve the fine prospect westwards and southwards to as far as Highclere Beacon and Hindhead; nearer are Eversley, Strathfieldsaye, and the valley of the Blackwater, with Winchfield beyond.

Art Exhibitions.

Mr. Gordon Craig's exhibition of models and designs for the New Theatre at the Leicester Galleries will close on Saturday, 12th inst., when on the same day there will be opened an exhibition of paintings and drawings by Mr. George Clausen, R.A.

Later in the month Mr. Arthur Rackham's water-colours illustrating "Æsop's Fables" and some new drawings for "Peter Pan" will be shown in these Galleries, together with the collection of nearly one hundred drawings by the late Phil May formed by Mr. Lear J. Drew.

The Arts and Crafts Exhibition Society, founded in 1888, will hold their tenth exhibition at the new Grosvenor Gallery—a gallery just erected at 51A, New Bond-street—during the months of November, December, and January next. It will be remembered that this Society has been in the habit of holding triennial exhibitions since the year 1900, and that these exhibitions have never been run for profit, the Society being satisfied if its expenses are paid, as the main object is to find opportunities of placing the best English contemporary work in design and craftsmanship before the public. Mr. Walter Crane is the President and Mr. Edward S. Prior, Hon. Secretary.

BOOKS.

Porches and Fonts. By J. CHARLES WALL. (London: Wells Gardner, Darton, & Co., Ltd. 10s. 6d. net.)

THE porch as a feature of ecclesiastical architecture often commands an individual interest. As the duality of the title of this work indicates, however, the author views his subjects from the standpoint of ecclesiology as well as architecture. To him the significance of the porch consists in its direct relation to the font. It is the relic of the *atrium*, the place set aside for catacumens—the unbaptised—while the font offers the first step towards reception into the privileges and ritual of the church proper. There is the other view. The porch is one of the *exedræ*, or outer buildings, referred to in early authorities as fit places for baptism, which ceremony was regarded as a purely public transaction. And the porch has certainly retained this character of an outbuilding suitable for public uses and performances of one kind and another. To many of these the author refers. It is, as we know, still the place where statutory notices are displayed. The civil arrangements connected with the marriage ceremony were conducted in the porch. Marriage settlements were there signed and sealed. Above the porch there often exists a room, known generally as a *parvise*, used as a muniment-room or library, sometimes as a school. An illustration of the fine porch and library over it, at St. Mary, Redcliffe, Bristol, is given, and due recognition is made of the remarkable flint panel work and freestone tracery that distinguished the porches in the eastern counties, as at Ardleigh and Great Bromley, in Essex, and Southwold, Halesworth, and Blyford, in Suffolk. Details of some of these porches were published in the *Transactions* of the Royal Institute of British Architects, 1884, with a paper by Mr. Frank Baggallay. But such characteristics are shared with the buildings to which they belong, and one must not push the individual claim of the porch too far. Those more distinctive porch forms, the narthex, as we see it at Lincoln and Peterborough, and the Galilee, as we see it at Chichester and Durham, have naturally not been overlooked by the author. Neither such prevalent features as sundials, stoups, and niches for the patron saints.

The especial claim of the font is more readily acceded to. There are fonts whose beauty is not only of the most distinctive kind, but beauty of design of a very high order. The finest Norman fonts are pure Byzantine art, with the bowl sometimes square, as at Toftrees, sometimes round, as at Bodmin—both magnificent specimens.

The XIIIth-century font, as we find it at St. Giles, Oxford, Barnack, and Eaton Bray, is splendid also, and one may contrast the reticence of design in the St. Giles's example with the luxurious handling shown at Eaton Bray. With the XIVth century comes an obvious falling off in creative power. The bowls are small, and appear more insignificant still by their pedestal treatment and their position upon platforms. The "tub" font in Burford Church is, however, a notable exception.

When we reach font-covers, as we do towards the close of the book, it is again to find that the eastern counties show some of the best examples. Suspended with a counterbalance from the roof, or from four-post canopies, they are fine pieces of workmanship. Then there is the cabinet type, which gives access to the font by means of doors, of which there is a good example at Plymstock, Devon.

A handsome display of font-covers is, as we remember, given in an earlier work on the subject by Mr. Francis Bond. There is an earlier one still by F. A. Paley. But the present book is distinguished by possessing excellent original illustrations by the author, while Mr. Bond was satisfied with photographs, and Paley's was published in the days of steel engravings. If in this respect only, Mr. Wall may claim precedence, while we may add that those who seek ecclesiological information upon "liturgical observances" will find them duly considered.

Fire Prevention and Fire Protection as Applied to Building Construction: A Handbook of Theory and Practice. By J. K. FREITAG, B.S., C.E. (New York: John Wiley & Sons. London: Chapman & Hall, Ltd. 1912. Pages viii. and 1,038. 17s. net.)

THIS book is an outcome of the elaborately specialised study which of late years has been given to the protection of life and property against fire. That absolute safety is attainable without the sacrifice of convenience to an unendurable extent, is doubtful; but great progress has of late been made in reducing risks by suitable methods of construction and arrangement as well as by increased efficiency in what have been called the "fire-fighting" arrangements and staff, and the work before us gives a very comprehensive statement of the present position from the points of view indicated by its title.

The earlier chapters are devoted to the subject of fire losses and statistics connected therewith, from which the author arrives at the conclusion that the buildings of the United States are very inferior in fire-resisting capacity to those of Europe. He state that "our *preventable* fire waste, according to European experience, amounts to more than 366,000,000 dollars annually, or nearly enough to build a Panama Canal each year."

After a chapter on the "Theory and Practice of Fire Insurance," there follows one on "Slow-burning or Mill Construction," which would perhaps come more appropriately later in the book. "Fire Tests and the Materials of Fire-Resisting Construction" are dealt with next, occupying four chapters; and then follow thirteen chapters on "Fire-resisting Design," seven on "Special Structures and Features," and nine upon "Auxiliary Equipment and Safeguards."

The chapters on materials and construction contain many notes of general interest upon modern methods of construction, that devoted to the questions of permanency and corrosion of metal being worthy of especial notice. The author very strongly condemns the jerry building which appears to exist in the United States, as in the United Kingdom, and attributes its prevalence to undue haste and consequent carelessness, the craze for lightness and cheapness, and to actually dishonest design and construction. He says:—"In more than 95 per cent. of the fireproof buildings erected during the last five years the mistaken economy of owners has prevented the adoption of good fireproof construction," although the difference in cost between a poor and a first-class method has in no case been in excess of 2 to 4 per cent. of the cost of the building. We have heard an architect "on this side" assert that a great proportion of our own jerry building is the fault of the employer or client for whom it is done—and there is much truth in the statement. The desire to get more for one's money than can honestly be had does not seem to be peculiar to any one continent! The types of construction described and illustrated are very many and of varying degrees of merit, and the explanatory comments are clear and useful. It is noted that forms of construction which may very satisfactorily resist fire are not always equally good from the standpoint of general permanency. The many forms of floors, partitions, etc., commonly used, in which steelwork is permanently hidden from view but surrounded by air-space, must, of course, all deteriorate at a speed varying with individual conditions, but in many cases too rapid to be at all reasonable in connexion with important buildings.

The great fires at Paterson in 1902, at Baltimore in 1904, at San Francisco in 1906, at Chelsea (Massachusetts) in 1908, as well as many fires in very large office and other blocks, theatres, and other public buildings furnished illustrations, details of which are copiously drawn upon by the author, of the actual resistance and efficiency, or the reverse, of most modern types of construction.

The carefully-organised experiments made at the testing-stations of the British Fire Prevention Committee, the United States Government, the Berlin Royal Technical Research Laboratory, and elsewhere are also referred to and details cited where necessary.

The best-known special types of doors, windows, and shutters of fire-resisting glass, and other means of separating fire-risks and of checking the spread of fire, together with the arrangements and construction of fire-escape staircases and fire escapes, are explained at

some length. The placing of staircases and lift wells is one of the points which most seriously hamper the planner of buildings and is most vital to the safe egress of occupants and to the ready action of the fire-brigade in the event of fire. They must be ample in size and number, simple in arrangement, without confusing turns, must have good lighting, must not have openings exposed to possible flames from other buildings, or, if this condition be impossible of fulfilment, they must be made with fire-resisting frames and similar glass. If they are outside the building they should be so arranged as not to pass windows or other openings from which flame may make its exit; this condition is often violated, the Iroquois Theatre fire contributing a typical example of the fatal result. The proximity of lift wells or other vertical shafts must be considered. The details of construction must, of course, vary with the use of the building, though always complying with the general principles of fire-resistance, of which perhaps the most often overlooked is the fact that non-flammability and fire-resistance are by no means synonymous terms. These and similar considerations are discussed in connexion with the building of theatres and schools, residences, factories and garages, safes and vaults.

The last section of the book is devoted to appliances and systems intended to check and extinguish fires. In this we find sprinkler and fire-alarm systems, extinguishers, hydrant services, the organisation of private fire-brigades, fire-watches, and drills all very well explained.

The volume is an excellent epitome of the widespread ramifications of its complex subject, but it is impossible in the space available in these columns to do more than indicate some of its contents.

The work should certainly be in the hands of all who are especially interested in fire prevention, and there can be few practising architects to whom it would not be helpful.

BOOKS RECEIVED.

ARCHITECTURAL DRAWING AND DRAUGHTSMEN. By Reginald Blomfield, A.R.A. (London: Cassell & Co. 10s. 6d. net.)

WATER SUPPLY AND DRAINAGE. By C. E. Housden. (London: Longmans, Green, & Co. 1s. 6d.)

COMPETITION POINTS FOR GAS SALESMEN. By A. E. Bezant. (London: *Journal of Gas Lighting*. 3s. 6d.)

LETCHWORTH (GARDEN CITY) AND HITCHIN. By the late George Aylott and W. P. Westell. (London: The Homeland Association, Ltd. 2s. 6d. net.)

CORRESPONDENCE.

Education in Architecture.

SIR,—A proposal has been made to my Council by some of the more prominent men in the architectural profession to the effect that the Society of Architects should organise a system of education on similar lines to the ateliers of the Ecole des Beaux-Arts. In addition it is proposed to institute a method of examination which will tend to eliminate from amongst the students all those who show no real aptitude for the profession and whose energies could therefore be more profitably employed in some other calling.

It is felt that this proposal constitutes a wise development, and one which should prove most popular with all grades of the profession, and my Council are anxious that it should be introduced at the earliest possible moment. They have therefore appointed a Committee to confer on the subject and to consider ways and means. In addition to three of their own members appointed by my Council, the Right Hon. Lord Saye and Sele, Sir George Riddell, Mr. H. V Lanchester, F.R.I.B.A., and Mr. A. R. Jemmett, F.R.I.B.A., have consented to serve on the Committee referred to, and it is anticipated that other prominent educationalists will also co-operate.

I shall be glad to hear from any other gentlemen, particularly architects, who sympathise with the scheme and who are willing to assist the Society in putting it into operation at an early date. C. MCARTHUR BUTLER,
Secretary of the Society.

St. Paul's Bridge and the G.P.O. Buildings.

SIR,—The new road proposed by Mr. Arthur Crow in your issue of August 9, and illustrated in your issue of August 16, should certainly commend itself to the authorities and be adopted for carrying out some time in the future.

There are two or three points in connexion with it that I believe were not touched upon. In the first place, the street would pass through the Wood-street "danger zone," and thus by giving better access greatly minimise the risk of serious outbreaks in this part.

Secondly, the amount of time lost through the congestion of heavy traffic in the narrow street must be immense, and such a new street should go a long way towards remedying this.

Thirdly, if trams are taken across St. Paul's Bridge, this street would give a direct connexion between the bridge and the existing tram terminus at Finsbury-pavement.

Fourthly, the new street can be planned axially with the dome of St. Paul's, the grouping of which with the Church of St. Vedast in the foreground would give a picture second only to that which would have been obtained if the new bridge had been planned axially with St. Paul's.

The plan reproduced herewith shows this, and also shows a further extension of this route by a new street connecting Liverpool-street with Whitechapel High-street, at its junction with Commercial-road, thus forming a new through route from the Post Office to the east. About half of this new road is shown along the line of the Metropolitan Railway, which at this part is not covered in and built over. A further length of it is through some very low-class property, and thus the cost of the road should not be excessive. A second and better route is shown on the plan by dotted lines, but this would probably be barred on the ground of cost. R. DANN.

St. Martin's le Grand.

SIR,—In all that has been written around the demolition of the old General Post Office—the opportunity for a new thoroughfare, the saving of Wren's church in Foster-lane—a noteworthy piece of City architecture has, seemingly, been overlooked which we might reasonably have expected to claim some attention in this matter. The Goldsmiths' Hall has perhaps not been so considered from the fact that it is hidden behind the old Post Office buildings in the characteristic fashion of the City's best buildings, approached by narrow lanes, and defying the modern tendency to isolate any great architectural presence from the intimate setting of its surroundings.

When this area is cleared of the present buildings there will not be a few to whom the revelation of the Goldsmiths' Hall will come as a surprise. That it has escaped notice at the present juncture is proof enough that it still awaits discovery by many. Faithful to Portland stone—stone here almost uniformly bleached throughout the structure in a striking degree—there is hardly a finer building within the precincts of the City: none which so completely expresses the dignity of a great City company and the history of the City itself reflected therein. The scale of the whole building, with its really nobly conceived Corinthian columns and pilasters, evinces a rare sense of architectural form and proportion which is nearer the true Greek feeling than the results achieved by the Renaissance. The Goldsmiths' Hall is a striking contrast to what its architect, Philip Hardwick, R.A., attempted to express, so inappropriately, at Euston, and among all his work it must be considered his masterpiece, well worthy of a little attention just now, when we are hearing so much of the evolution of the classical style. What I wish to suggest, however, is that the building, forming one self-contained block, is one of the determining factors in the re-planning of the old Post Office site and the cutting of any new thoroughfare to relieve the City traffic, as I think will be made very manifest as soon as the existing buildings are demolished. MAX JUDGE.

INTERCOMMUNICATION COLUMN.

Utilising Roof Tops.

SIR,—*A propos* your note to the above paragraph (p. 328 *ante*) anent the "woefully wasted" space beneath high-pitched roofs, can any of your readers advise whether such space can be satisfactorily used as a "fruit room," viz., for the proper storage and preservation of apples and pears, etc., from one's garden? If so, I am sure many would welcome some hints as to the way such space should be ventilated for this purpose. ENQUIRER.

Stained-Glass Specimens.

SIR,—Will any of your readers kindly inform me where the best specimens of modern stained glass can be seen within, say, 40 miles of London? E. A. COLLETT.

Proposal for New City Thoroughfares.

ILLUSTRATIONS.

New Wesleyan Church House.

OUR plates this week are devoted entirely to the new building recently inaugurated at Westminster. An article on the subject begins on p. 411.

MEETINGS.

FRIDAY, OCTOBER 11.

Royal Technical College, Architectural Craftsmen's Society, Glasgow.—Mr. A. N. Paterson, M.A., on "Scottish Architecture: XVth to XVIIth Century."

Institution of Municipal Engineers.—Fourth annual general meeting, London.

SATURDAY, OCTOBER 12.

Aberdeen Architectural Association.—Mr. G. M. Fraser on "The Bridge of Dee." 7.30 p.m.

Institution of Municipal Engineers.—Fourth annual general meeting (concluded).

MONDAY, OCTOBER 14.

The Architectural Association.—Opening meeting of the session. Presidential address by Mr. Gerald C. Horsley. 8 p.m.

Royal Sanitary Institute.—Mr. Alan E. Munby, M.A., A.R.I.B.A., on "Elementary Science: Physics, Chemistry." 7 p.m.

University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "Constructive Principles of Gothic Architecture." 5 p.m.

TUESDAY, OCTOBER 15.

Royal Sanitary Institute.—Mr. Alan E. Munby, M.A., A.R.I.B.A., on "Elementary Science: Physics, Chemistry." 7 p.m.

Institution of Municipal Engineers (Eastern District).—Meeting at Godmanchester.

WEDNESDAY, OCTOBER 16.

Royal Sanitary Institute.—Mr. Alan E. Munby, M.A., A.R.I.B.A., on "Building Materials." 7 p.m.

The Institution of Heating and Ventilating Engineers (Incorporated).—The autumnal general meeting, University College, Gower-street, London, W.C. The members are invited to attend a lecture to be given by Mr. A. H. Barker, B.A., B.Sc., Wh.Sc., in the Botanical Theatre of the University College, on "The Theory and Limitations of Approximate Calculations in Heating and Ventilation." 5 p.m.

THURSDAY, OCTOBER 17.

University of London (British Museum).—Mr. Banister Fletcher on "The Tomb Palaces of the Egyptians." 4.30 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 423.

Isolation Hospital, Easington.

The Easington Rural District Council have adopted, by fifteen votes to eight, the design of Mr. Hugh Hedley, of Sunderland, for the proposed new isolation hospital.

Students' Prizes, Society of Architects, 1912-13.

The list of quarterly competitions for students of the Society of Architects has been published. The subject for the Travelling Studentship is "Almshouses," and the assessor is Mr. E. C. P. Monson, F.R.I.B.A. The date for sending in is May 1, 1913.

Municipal Buildings, Padiham.

Messrs. Pollard & Pollard, of Bank-chambers, Padiham, have been awarded the first premium (40*l.*) in this competition. The second premiated design is by Messrs. Matthew Watson, Landless, & Pierce, 4, Nicholas-street, Burnley. The designs are to be exhibited at the Technical Schools, Padiham, from October 11 to 15.

Library and Museum, Sofia, Bulgaria.

The Commercial Intelligence Branch of the Board of Trade is in receipt of particulars of a competition of designs for a national library and museum, which it is proposed to erect at Sofia at an estimated cost of 2,000,000 fr. (80,000*l.*). Premiums of 4,000 fr. (160*l.*), 2,500 fr. (100*l.*), and 1,000 fr. (40*l.*) are offered. Designs, in sealed envelopes, must reach the "Euphorie—Frères Evloguie et Christo Gueorguieff," Sofia, not later than December 1 next. Full particulars can be obtained from the same address. A copy of the programme (in French), together with blue prints, may be seen by British architects at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

ANCIENT ARCHITECTURE.

MR. BANISTER FLETCHER, F.R.I.B.A., gave the first of a course of twenty-four University Extension Lectures on "Ancient Architecture" in the Assyrian Saloon, at the British Museum, on Thursday last week.

He dealt with the nature of the lectures to be given under the auspices of the University of London during the coming winter, saying that he would trace the evolution of ancient architecture in Egypt, Assyria, Greece, Rome, and Byzantium on broad lines. Architecture, the lecturer explained, was the visible exponent of civilisation, and all present-day buildings were founded upon old art adapted to modern needs. The study of architecture was thus necessary to architects, craftsmen, and art students, and it would be difficult to find anyone to whom a knowledge of the subject would not be useful. The author, journalist, photographer, and antiquary all required a knowledge of the evolution of architecture to help them in their work. The teaching profession now also adds to the interest of history by referring to the dwellings and the temples constructed by the different peoples to suit their social, religious, and political requirements. A knowledge of architectural history also added much to the enjoyment and benefit of travel by enabling people to take an intelligent interest in the monuments of the past. By the study of the most beautiful buildings of bygone ages an improvement in the architecture of our own country would assuredly result.

Mr. Fletcher next gave a short illustrated review of ancient architecture, and referred to the different influences—geographical, geological, climatic, religious, social, political, and historical—which aided in the evolution of typical buildings. He touched lightly on the world-famous Sphinx—a sentinel of the past—the massive temples and tombs of the Egyptians, the palaces of the Assyrians, the temples of the Greeks—*e.g.*, the Parthenon and the Erechtheion—and their open-air theatres, the great buildings of the Romans, including the Baths of Caracalla, the stupendous Colosseum at Rome, the Arches of Triumph, and the dwellings at Pompeii, the churches of the Early Christians, and the peculiar types of buildings erected under the influence of Byzantium. The lectures are to be illustrated by some 1,200 views. This is one of the courses recognised as qualifying for the new diploma in the History of Art just established by the University.

ARCHITECTURAL SOCIETIES.

Glasgow Technical College: Architectural Craftsmen's Society.

The first meeting of the seventeenth session of the Architectural Craftsmen's Society was held in the Royal Technical College, Glasgow. Mr. Alexander H. Purdie, the President, occupied the chair and read a paper on "Comparative Costs of Various Methods of Construction." Alternative methods of constructing walls, floors, roofs, and partitions were discussed, and the paper concluded with a reference to probable costs in connexion with competitive designs.

The Gloucestershire Architectural Association.

Mr. J. A. Gotch, F.S.A., F.R.I.B.A., gave an interesting lecture on Thursday last week at Northgate Mansions to the Gloucestershire Architectural Association upon "The Homes of Queen Elizabeth's Courtiers." The President of the Association (Mr. Walter B. Wood, A.R.I.B.A.) occupied the chair. Mr. Gotch, who illustrated his lecture with a great number of beautiful lantern slides of typical examples, said that under the safe and sound rule of Elizabeth at a time when the dissolution of the monasteries had placed much wealth in certain secular quarters, there was a great zest for building. The ponderous contrivances for ensuring safety gave place before the fulfilment of a desire for better and more comfortable homes. This busy building period lasted for about sixty years, throughout the reigns of Elizabeth and James I. Before it there had been the Tudor period, still distinctly Gothic, and after it came a period distinctly classic. The Elizabethan period had a distinct individuality. The culture of Italy at the time had affected the whole civilised world, and Elizabethan architecture was marked by many Italian features applied very largely to the Gothic forms, which had clung to English builders from their youth; the whole developed with certain distinct characteristics, in accordance with the demands of English climatic and other conditions. From whatever source these characteristics came, they were developed upon a body entirely English, namely, the plan. The buildings had to coincide with the established requirements and customs of English life, and they were built so as to fulfil the great desire for magnificence, for more privacy, and for more light. The great size of the buildings made them so magnificent that in many cases they were far beyond the resources of modern incomes, and many descendants of the Elizabethan courtiers had had, perforce, to leave the tremendous homes of their ancestors; privacy was gained by a large addition to the number of rooms built into the mansions; and light had been supplied by a larger number of windows more conveniently placed. Indeed, such a change in the latter respect did this Elizabethan style bring into vogue that Lord Bacon recorded that "One could not tell where to become to be out of wind or sunlight." Among the interesting examples of the period which Mr. Gotch showed were several buildings geometrically planned—strictly square, oblong, or triangle—after a fanciful manner, which has given place in our time to strict utility. A hearty vote of thanks was passed to the lecturer on the motion of the President of the Association.

FIFTY YEARS AGO.

From the *Builder* of October 11, 1862.

Electro-Telegraphic Progress.

A NEW discovery has been made. A telegraph without wires can pass through earth and sea, and everyone may establish his own. It is at present a very great secret in scientific circles, adds our authority. It is evident that wonders will never cease. The idea of an electric telegraph without wires, however, though not yet fully realised, so far as we know, is not so new as our authority appears to imagine. A Dundee gentleman, lately deceased, actually laid (if we may so speak) an electric telegraph across Portsmouth harbour, without wires, and worked it too, by permission of the Government. He also telegraphed across the Tay in the same way. Although no wires crossed the river or the harbour, however, a wire with earth plates at right angles was requisite at either side.

* * The Seventh Wonder of the ancient world was the Pharos, or Watch Tower, completed by Ptolemy Philadelphus, King of Egypt, about 283 B.C. The fires on this early lighthouse, at a height of 550 ft., could be seen by sailors at a distance of 42 miles. This means of communication, namely, the beacon fire, was serviceable until the XIXth century. At Blakeney, in Norfolk, the Church of St. Nicholas possesses a delightful miniature tower which, with its lights, used to enable mariners to approach the port in safety by day or night. Later in civilisation came the electric telegraph, and in consequence the disfigurements to the country which have been a continual worry to those of æsthetic temperament. The telephone followed, and again complaints sprang up from various quarters where unsightly attributes were placed. Only a few weeks ago the Egham Urban Council had to face protests because it was proposed to place telephone poles over historic Runnemede. Will these objectionable accessories to lightning communication eventually disappear? It seems probable, for the greatest wonder of the modern world is rapidly insinuating its invisible witchery into our daily life. Who could have foretold that the experiments briefly touched upon in the *Builder* fifty years ago would have developed into the fantastic yet practical wireless telegraphy of the present day? The new era in communication was firmly established when wireless messages were sent in 1901 from Poldhu in Cornwall to St. John's, Newfoundland. Since then the efforts of Mr. Marconi have been applied to the perfection of this amazing discovery, and "marconigrams" have taken an increasing share in the history of civilisation and commerce. There is a girdle round the earth, and "speeding up" is more prevalent than ever. Within twelve months we believe it will be possible to transmit messages direct from the Strand to New York, and those who are alive to do it will smile at the leaden slowness of the present day.—ED.

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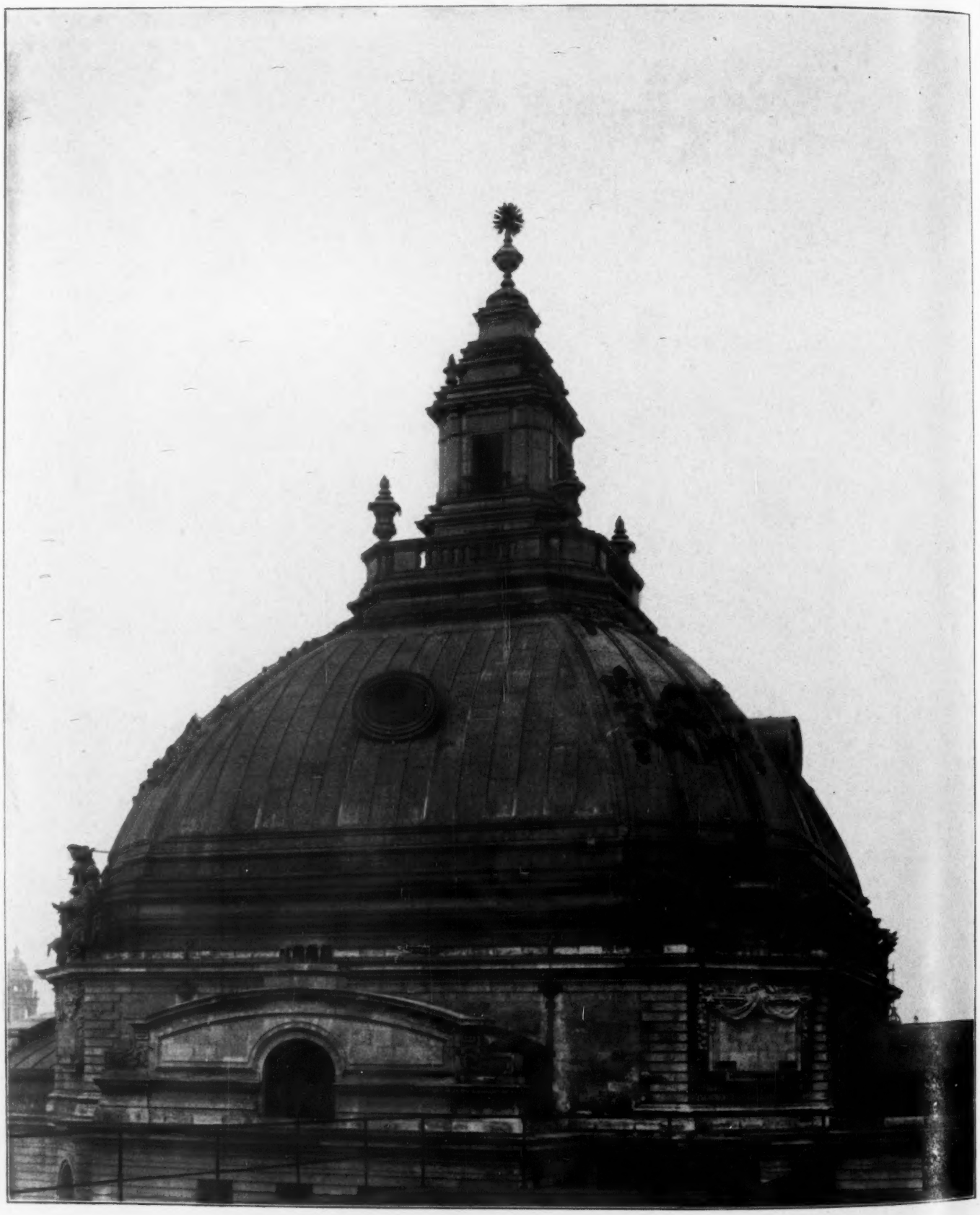

Sprague & Co., Ltd., Printers, 69 & 70, Dean St., London, W.

DETAIL OF DOME.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER.—Messrs. Lanchester & Rickards, F.F.R.I.B.A., Architects.

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GENERAL VIEW.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER.—Messrs. Lanchester & Rickards, F.F.R.I.B.A., Architects.

INTERIOR OF THE LARGE HALL.

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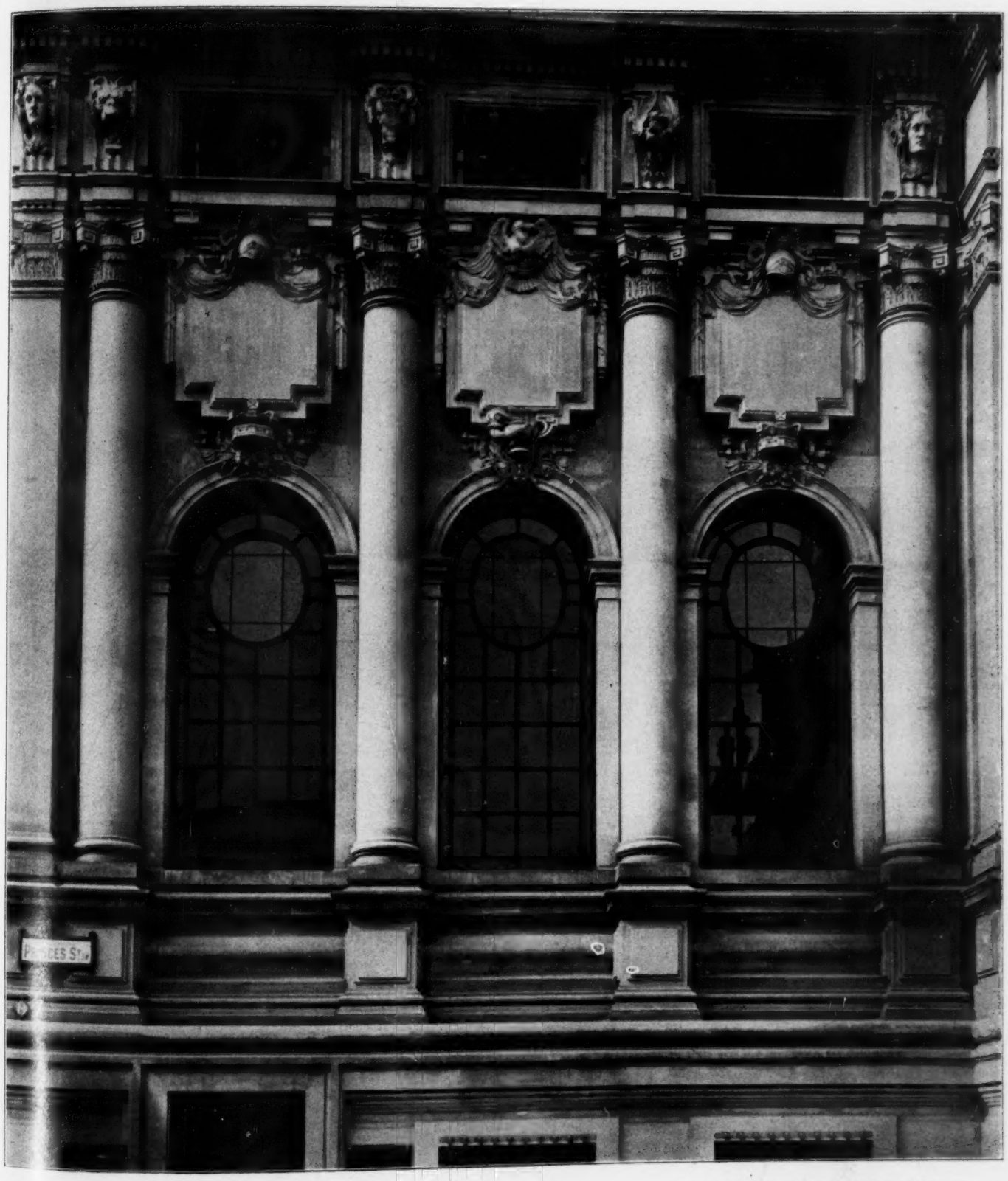
INTERIOR OF THE SMALL HALL.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER.—Messrs. Lanchester & Rickards, F.F.R.I.B.A., Architects.



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DETAIL OF MAIN FRONT.

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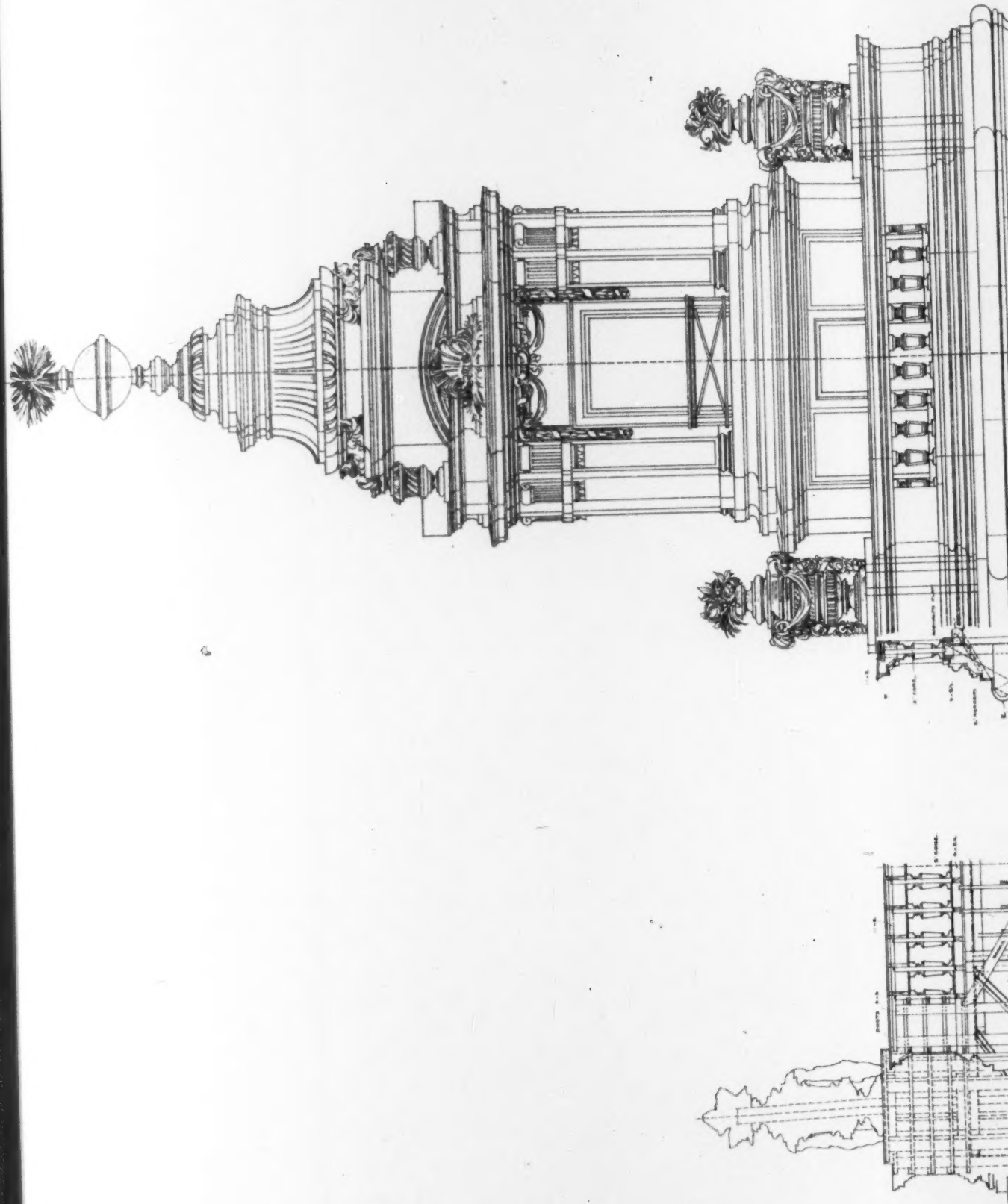
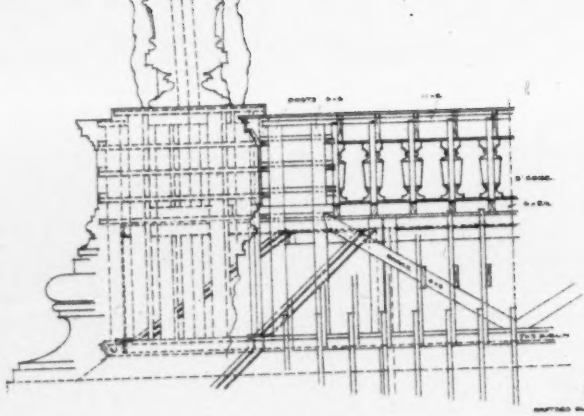
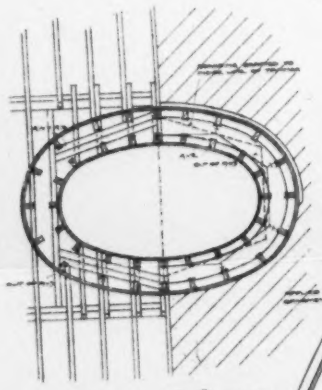




Sectional Elevation on line JJ, showing woodwork at level of balustrade:



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Cross Section.

Elevation

DETAIL OF DOME AND LANTERN.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER.—MESSRS. LANCHESTER & RICKARDS, F.F.R.I.B.A., ARCHITECTS.

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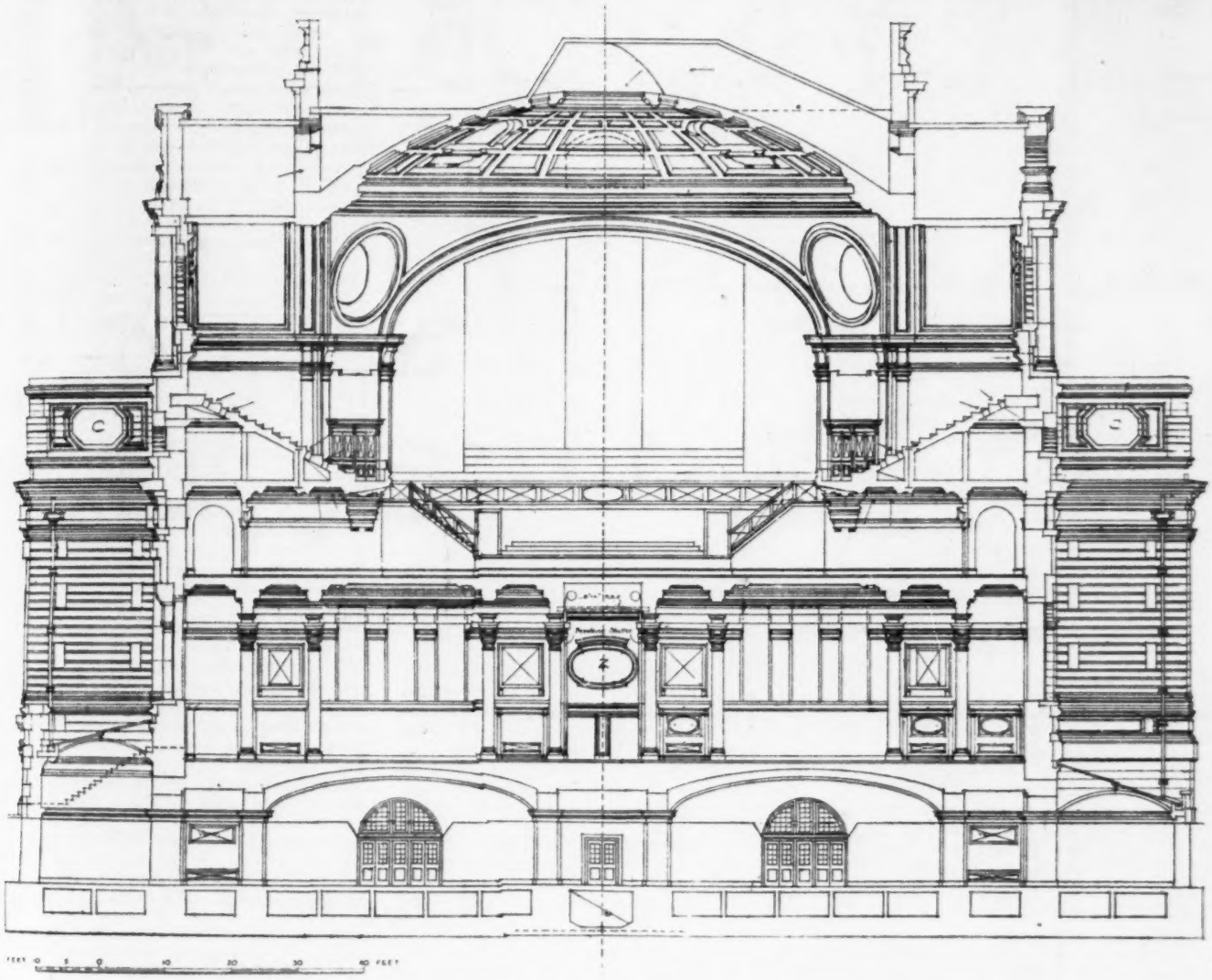


Fig. 1. Cross-Section.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTEP.

THE new Hall for the Wesleyan community which has been erected on the site of the old Aquarium, in Westminster, from the designs of Messrs. Lanchester & Rickards, is without parallel as an example of modern construction in London. Owing to the nature of the planning, which is essentially bold in its conception, some extremely interesting problems in construction arose, and these have been scientifically and successfully dealt with by the extensive use of reinforced concrete, which was executed on the Kahn system.

To thoroughly appreciate the nature of the construction it is necessary to understand the general arrangement of the building and also its magnitude.

The large Conference Hall was obviously the chief factor to be considered in the planning, and this is situated on the first floor and ceiled with a large dome, as shown on the cross-section, Fig. 1. This apartment measures practically 110 ft. by 80 ft., and galleries are provided on three sides, constructed on the cantilever principle to give the maximum amount of floor space below and to avoid obstructions. A large gallery for the chorus is also provided at the west end of the hall, with provision for a platform in front of same. Other features of interest on this floor are the foyers and ante hall, which exhibit much care in planning. There are two other important floors in addition to the first floor, viz., the ground and basement, as distinct from various mezzanine floors which were introduced to economise space where the heights required for the principal apartments would have been excessive for the smaller rooms.

The ground floor contains a great deal of accommodation, including the Library, Small Hall, small Conference Hall, committee-rooms, and a bank, and the disposition of these rooms in relation to each other and the entrances and staircases is carefully studied, as will be observed on reference to the illustration of this plan in Fig. 2. The large tea-room which occurs in the basement is the chief feature of this floor, and the construction of this, described below, is interesting.

The total height of the building from the pavement to the springing of the large central dome is about 92 ft., and the basement floor is 16 ft. in height, while the overall dimensions of the site are about 190 ft. by 180 ft. The system of construction employed is not that of a reinforced concrete building throughout, although the greater number of the principal features are constructed on these lines, but rather a combination of steelwork and reinforced concrete with brick arches in certain positions where the architectural treatment rendered this possible. The most important part of the steel construction is provided by the eight large lattice stanchions, described elsewhere, which carry the main dome, these being situated in four pairs at the angles of the square plan from which it springs, and being connected together immediately under the dome by reinforced concrete girders; while large steel girders are also introduced into the construction of the galleries in the main hall. The load on these steel stanchions has been calculated at about 550 tons each, making a total load on each pair equal to 1,100 tons, and this is carried on a grillage foundation constructed of eight 10-in. by 5-in. rolled steel joists, resting on seven 14-in. by 6-in. joists, each of the latter being about 30 ft. long, and the whole is embedded in cement concrete about 7 ft. thick. The soil consists of a good dry bed of sand and gravel, and the foundations were designed to distribute the loads in such a manner that the pressure did not exceed 2 tons per square foot at any portion. A solid concrete platform is constructed over the whole site, having the under-surface at one uniform level throughout, viz., 7 ft. 6 in. below the basement floor level. The least thickness employed was 1 ft. 3 in., any addition to this being applied upon the upper side, and the effect of this system is to give space at certain points under the basement floor where the concrete is at the minimum thickness, which was utilised for the conveyance of water and drainpipes, ducts, cables, etc. With the exception of the grillage foundations, mentioned above, extra loading or reduced thickness of concrete was compensated for by the introduction of reinforcement in the form of Kahn trussed bars, varying from ¼ in. to 1 in. in size. The cross-section previously mentioned (Fig. 1) gives a good idea of the level concrete platform with the space available at certain points.

The work in the basement floor is chiefly remarkable for the domed concrete ceilings over the tea-room, and upon studying the details of this work, illustrated in Fig. 4, some idea of its unique character can be gathered. Owing to the large size of this room and the little

* A perspective and plans were published in the *Builder*, June 24, 1905, and details of the façades, December 28, 1907.

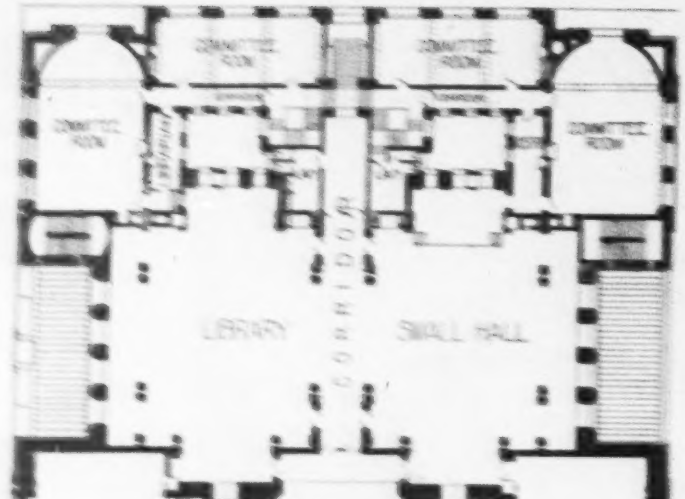


Fig. 2. Ground Floor Plan.

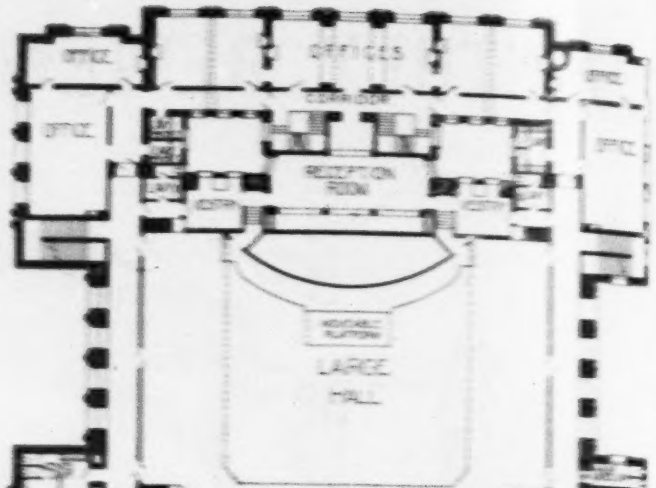


Fig. 3. First Floor Plan.

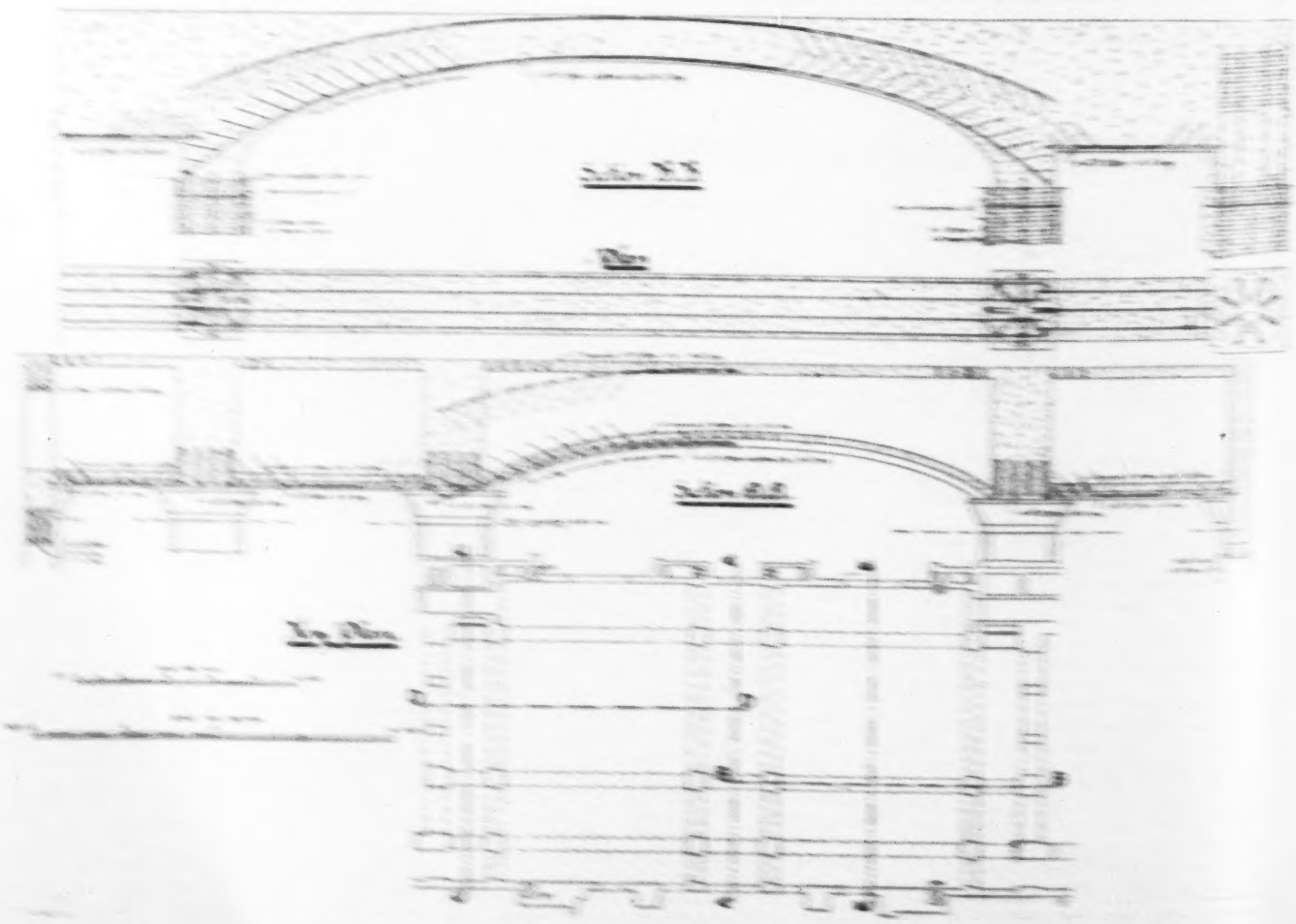



Fig. 4. Details of Ceiling and Floor over Basement.

constructional item is provided by the columns in the Small Hall and Library, Fig. 11, which are formed with special regard to the architectural treatment of the rooms in which they are situated. The function they perform is that of supporting the floor of the large Conference Hall above, and they have a height of about 28 ft., while the diameter is 2 ft. In forming these columns an attempt was made to avoid the necessity of having a large amount of "making out" by the plasterer such as usually occurs in the case of a constructional column which, when complete, forms a decorative feature requiring an entasis, and in consequence the entasis was actually formed in the concrete and a surface formed on which the plasterer could work direct and use a finishing coat of a uniform thickness, and this entasis was so accurately formed that the column in every instance could be completely finished with a coat ½ in. in thickness. The base, cap, and entablature above were also roughly formed in concrete, this method saving a lot of labour when applying the finishings, and making a much more satisfactory job. Some very careful setting-out and accurate shuttering were necessary to obtain the objects sought by this method, and especially in the case of the columns, which thus required to be cast with a certain portion quite vertical and the remainder having a slight curve corresponding with the required entasis. The boxings were made in separate sections, each being about 4 ft. high, and consisted of narrow battens placed vertically, which could easily be bent to the required curve, and these were secured to horizontal pieces that were set out, with their outer edges plumb, while the inner edges were formed to a curve coinciding with the diameter of the column at each particular point, these horizontal pieces occurring at intervals of 2 ft. throughout the height. The reinforcement to these columns consists of eight 1-in. ribbed bars with $\frac{3}{16}$-in. hooping at 6-in. pitch, the bars being kept back 1½ in. from the face of the concrete.

The work on the first floor is full of interest on account of the large Conference Hall, with its gallery and dome, and a few particulars of these should prove of value. The galleries are situated on three sides of the hall, and, although they are formed in reinforced concrete, large steel plate girders are introduced to assist in carrying the weights. The drawings of this work illustrated in Fig. 5 give a good general idea of the method employed. It will be seen that two steel girders are used, the back one acting as the anchorage for the sloping portion, which actually carries the tiers for seating purposes, while the front girder acts as a fulcrum, beyond which there is a projection of about 14 ft. 6 in. A continuity of reinforcement was preserved as far as possible by carrying the bars from the sloping portion right out to the end of the projecting portion, and then turning same back in the horizontal portion until the lower part of the front steel girder was encountered. Many of the bars in the sloping portion were also turned back and continued up the slope again in the under surface. The sloping portion, making an angle of about 32 deg. with the horizontal, is carried through in one length of about 38 ft., and it has a minimum thickness of 10 in. For the sake of lightness hollow tile blocks, 12 in. by 8 in., are introduced, spaced 6 in. apart in the clear, the space between being filled in with concrete reinforced with four 1-in. rib bars, two in the upper and two in the lower surface. These bars were hooped together with ¼-in. wire hoops placed at 12-in. centres, and the tiles were covered with a minimum thickness of 2 in. of concrete.

The horizontal cantilevered portion was reinforced with ¾-in. Kahn trussed bars at 18-in. centres carried out between the rib bars in the slope previously mentioned, and the whole were wired together with ¾-in. by ⅛-in. flat hooping at 6-in. centres.

The floor under the gallery is constructed on the same principle as the sloping portion of the gallery, with 12-in. by 12-in. hollow tile blocks at 18-in. centres, with reinforcement between the blocks consisting of two trussed bars, 1¾ in. and ¾ in. respectively. A large reinforced beam, 48 in. by 36 in., carries the greater portion of the weight from this floor, the reinforcement consisting of six 1¾-in. trussed bars.

The reinforced concrete dome, which occurs over the large Conference Hall and has a diameter of 80 ft., is one of the principal features in the building, both from the point of view of design and construction, and the writer is not aware of any reinforced concrete dome in this country of a similar size. This dome, which is coffered and visible from the Hall itself, is covered with an external dome, visible from the exterior of the building, constructed of a light steel framework, it being impossible to get a single dome which would have afforded a satisfactory treatment both internally and externally. The construction of the inner dome is formed by sixteen radiating ribs and five circumferential beams, which project below the filling, and thus form the coffers on the underside, these ribs and beams being well reinforced, as shown on the drawings of this dome, illustrated in Figs. 6 and 7. It will be seen that a circular central opening is formed in the concrete, and this has a 9-in. by 4-in. angle frame. Metal rings are also provided at two other points, one of these being at the springing, and having a sectional area of 32 sq. in., with a diameter of 83 ft., while the other has a diameter of 37 ft. 6 in. and a sectional area of 12 sq. in. The filling between the ribs and beams consists generally of 4½-in. concrete reinforced with ½-in. Kahn bars at 12-in. centres. The pendentives are formed with 8-in. concrete reinforced with 1½-in. Kahn bars at 9-in. centres. It will be seen, upon reference to the plan, that the octagonal plan is brought over to circular form by large concrete girders 18 in. wide, which carry the ends of the main radial ribs over a span of 50 ft., and these girders have a depth of 8 ft., and are reinforced with eight 1¼-in. Kahn trussed bars in top and bottom surfaces, and ¾-in. rib bar ties taken right round both sets of reinforcement. The ends of these large girders are in turn carried by still larger girders, which transmit the whole of the loads from the dome construction to the lattice stanchions previously mentioned. These latter girders span a distance of 70 ft., and have a depth of 13 ft. and a width of nearly 4 ft., with no less than 56 sq. in. of steel in both tension and compression areas. Openings are formed on the centre of each girder for the purpose of conveying an air duct through same, these openings being arched at the top. The construction of this dome and the method of transmitting the loads to the foundations is extremely interesting and worthy of particular mention as

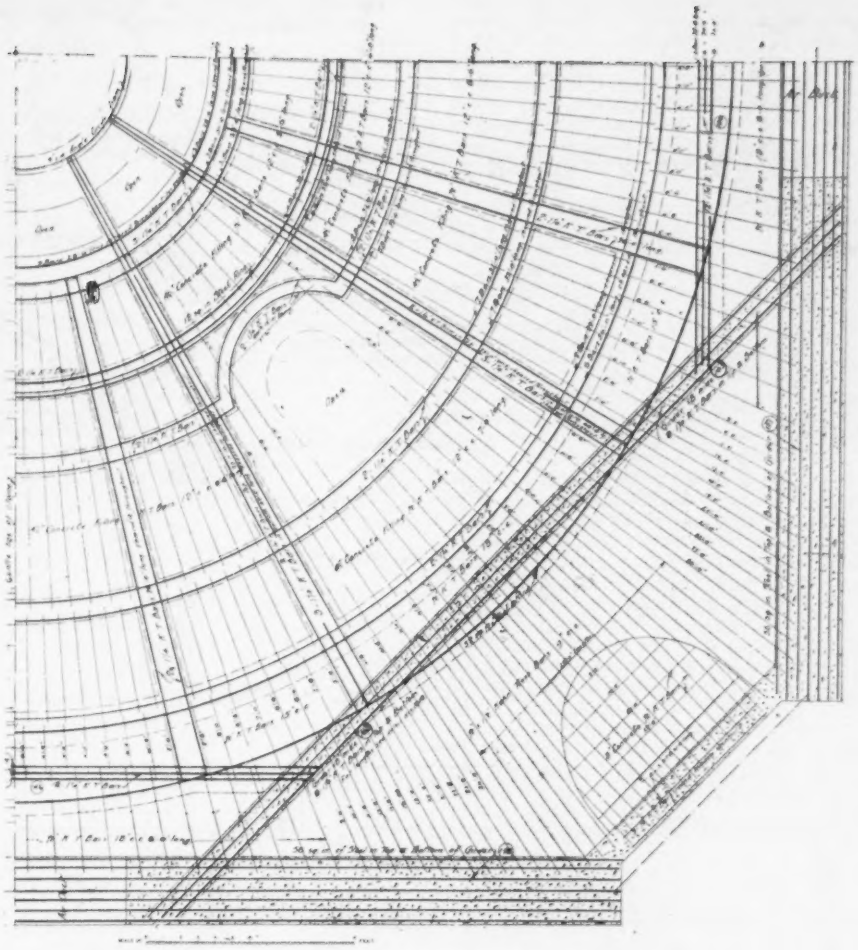


Fig. 6. Part of Plan of Inner Dome.

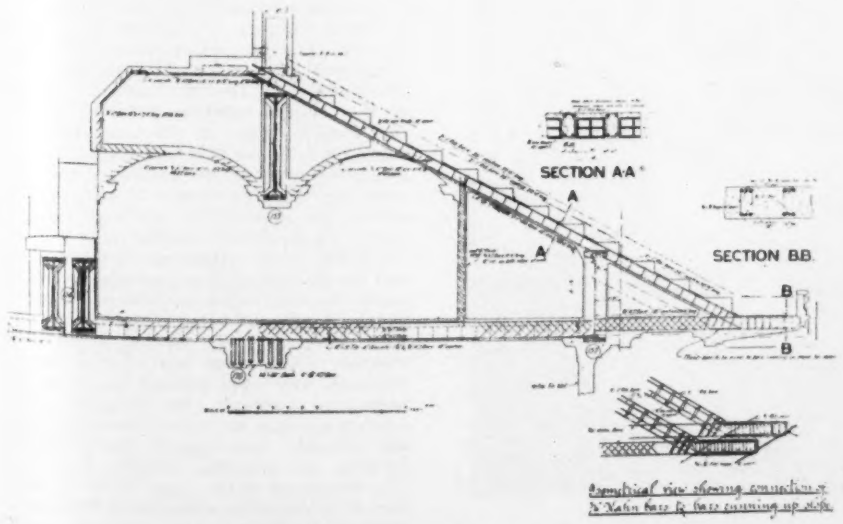
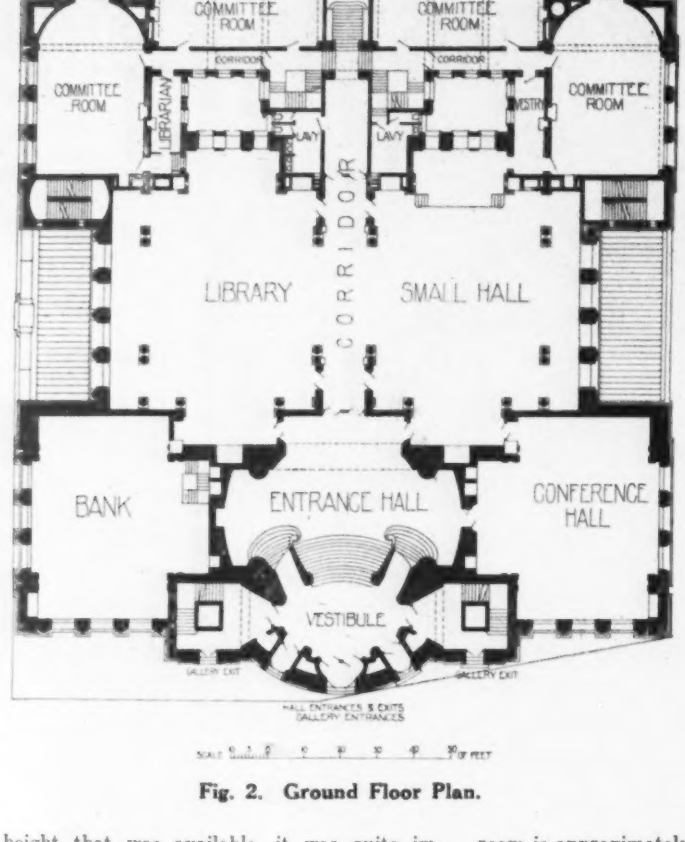


Fig. 5. Section through East Gallery.



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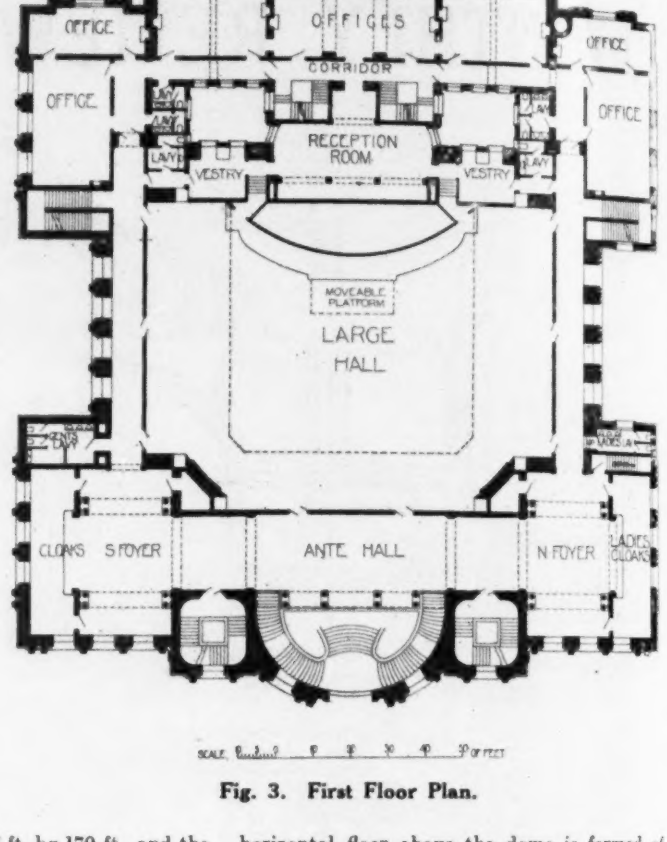

Fig. 3. First Floor Plan.

height that was available, it was quite impossible to obtain a dome with a large rise, and, again, a great deal of the architectural character would have been lost if any other than a flat dome had been employed. These domes are elliptical and cover the central portion of the room, which measures about 42 ft. by 29 ft., with a rise of about 6 ft. only; upon reference to the key plan in Fig. 4 it will be seen that the dome in each instance springs from a rectangular plan, which rendered the work extremely difficult to set out accurately, especially in the case of the pendentives. The total size of the tea-room is approximately 65 ft. by 170 ft., and the ceiling and floor above are carried by twelve reinforced concrete piers, these latter being connected by curved concrete ribs, each 3 ft. 3 in. wide and reinforced with four 1¾-in. Kahn bars at top and bottom. It is doubtful if this work could have been successfully constructed in any material other than reinforced concrete, and is a typical example of the possibilities of this system of construction. The thickness of the concrete forming the domed ceilings was 9 in., and reinforcement was provided in the form of ¾-in. Kahn bars, spaced at 12-in. centres. The horizontal floor above the dome is formed of 5 in. of concrete reinforced with ½-in. bars at 12-in. centres, and this is attached to the domed ceiling at the crown of the latter only, thus leaving an open spandril space between the two. The piers carrying this work and the columns over are 4-ft. square constructed of concrete reinforced with eight 1-in. Kahn bars and 1-in. by ¼-in. hooping at 3-in. pitch, the vertical bars being extended upward for a short distance into the lower part of the connecting ribs, thus forming one complete construction. On ascending to the ground floor the most interesting

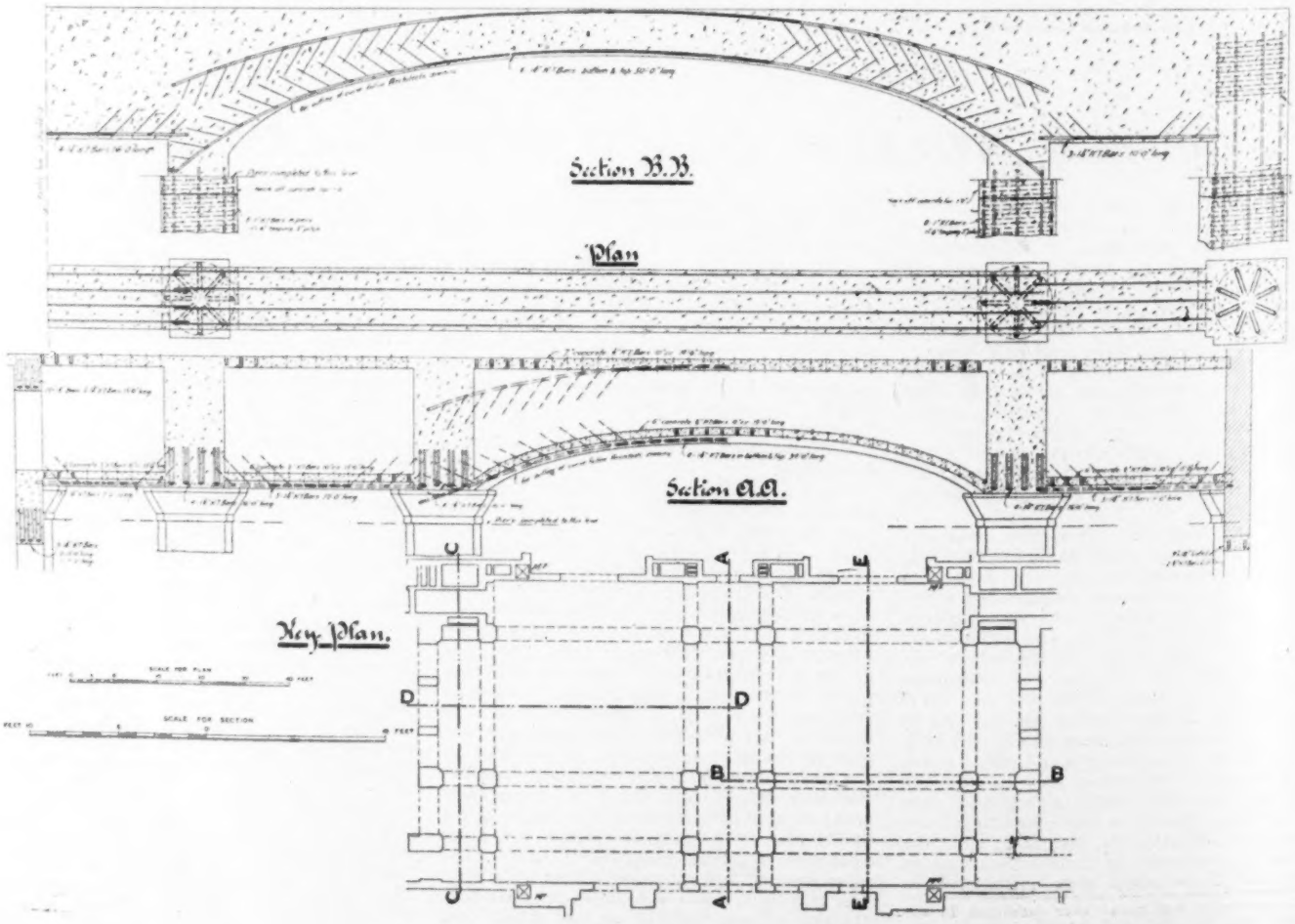

Fig. 4. Details of Ceiling and Floor over Tea-Room.

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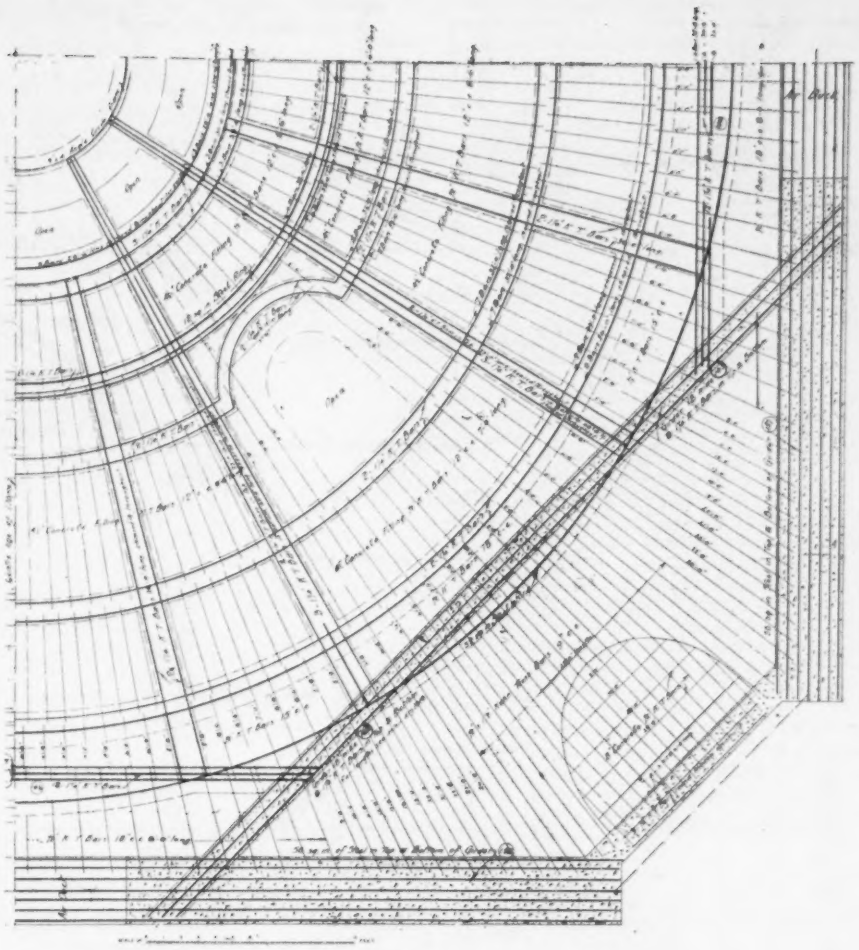

Fig. 6. Part of Plan of Inner Dome.

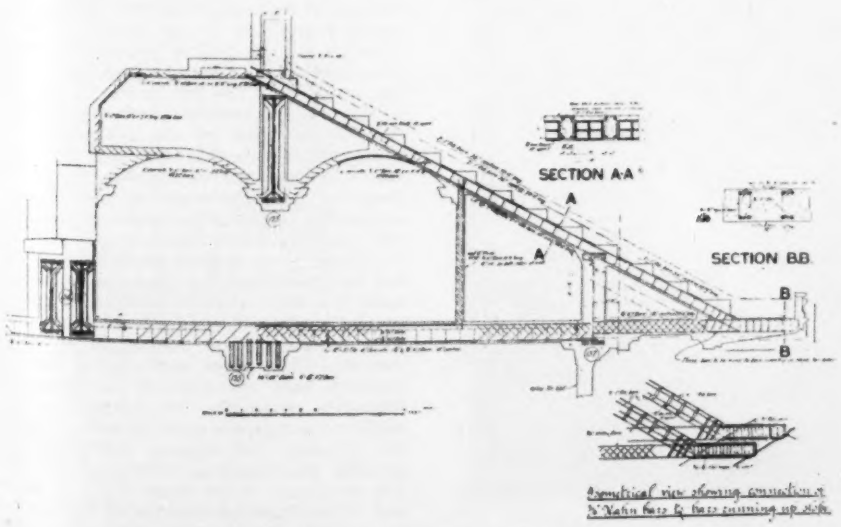

Fig. 5. Section through East Gallery.

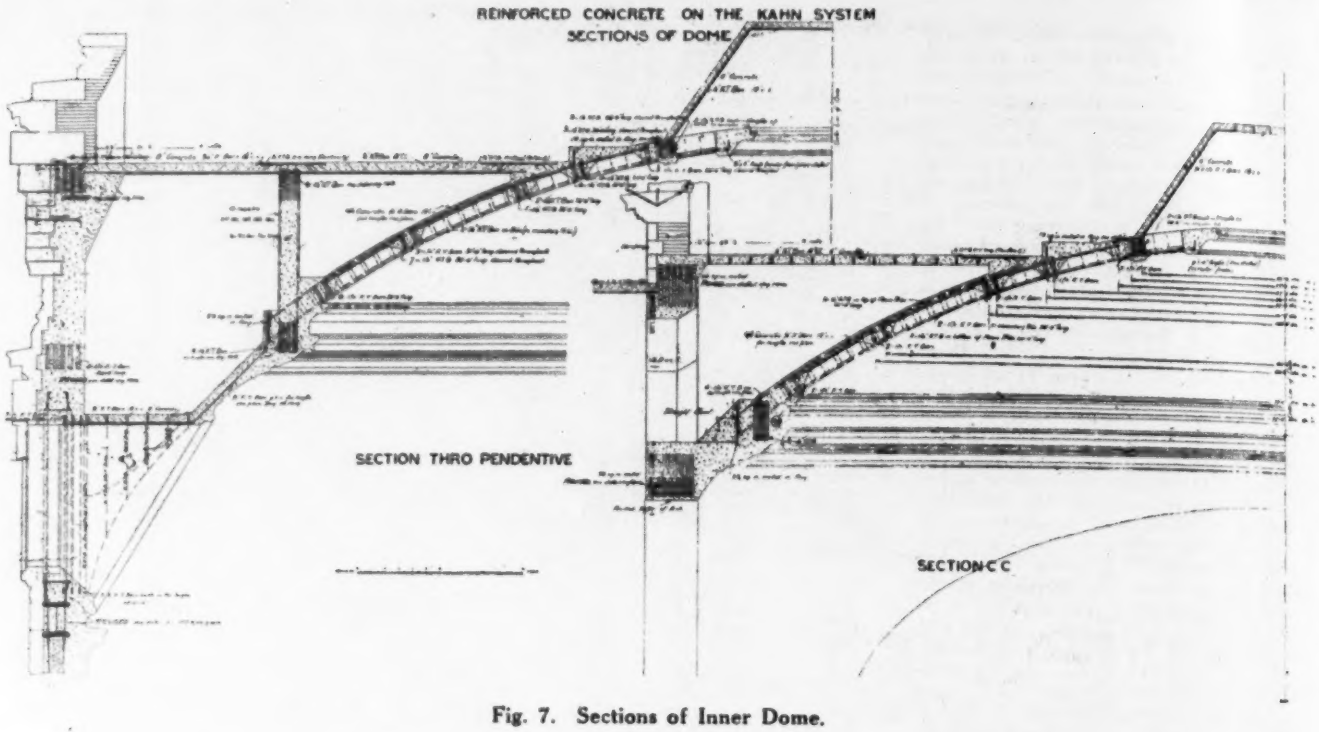

Fig. 7. Sections of Inner Dome.

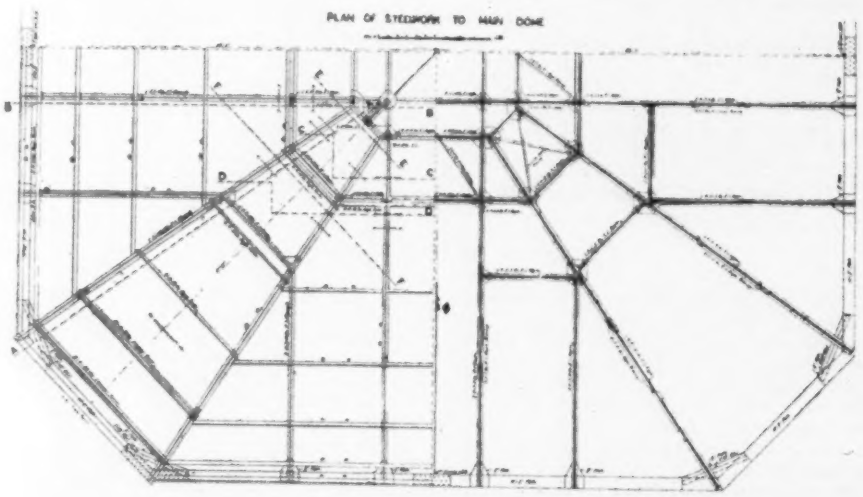

Fig. 8. Plan of Steelwork to Outer Dome.

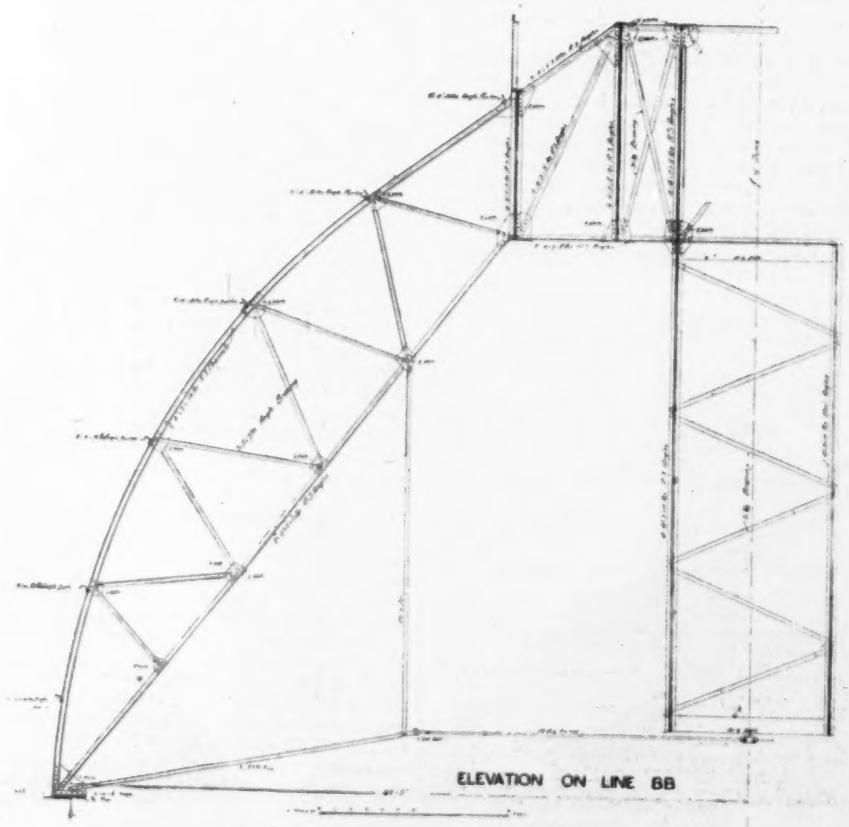

Fig. 9. Detail of Steelwork to Outer Dome.

an example of modern work, which shows the possibilities of reinforced concrete as a constructional material.

The steelwork carrying the outer dome is illustrated in Figs. 8 and 9, this consisting of eight principals, which were placed at the angles and connected at the foot by a steel plate, 14 in. by $\frac{3}{4}$ in., well tied at the intersections. The principals consisted generally of two 6-in. by 3-in. by 14-lb. rolled steel channels, which acted as the principal rafter, well braced with 3-in. by 3-in. angles, and with two 4-in. by 3-in. angles to form a tie. Six angle purlins were introduced to carry the woodwork, and the principals were also braced together to stiffen them laterally, and tied at the foot with tie rods. Each truss had to span practically a distance of over 43 ft., and had a rise of 48 ft. The steel lattice stanchions, which were previously mentioned as carrying the load from the dome, are illustrated in Fig. 10, and it will be seen that these have a total height of 82 ft. 9 in., the upper part of which, however, for a distance of 22 ft. 7 in. is constructed as a compound steel stanchion, with a section composed of two 18-in. by 7-in. by 75-lb. R.S.J.'s, and four 18-in. by $\frac{1}{2}$-in. plates. The lower lattice portion is built up with four 10-in. by 8-in. by 70-lb. R.S.J.'s, and four 10-in. by $3\frac{1}{2}$-in. by 28-lb. Zed steels, braced by horizontal angles $3\frac{1}{2}$ in. by $3\frac{1}{2}$ in. by $\frac{1}{2}$ in. at 3 ft. 6 in. distances, and similar angles placed diagonally between these, as illustrated. The two stanchions, acting as a pair, were also braced together by a truss 11 ft. deep at the top of the lattice portion, and another truss of similar type at the head of the compound portion. The base plates to these stanchions were 6 ft. square and carried on grillage foundations, as previously described.

The exterior treatment of the building is striking on account of the bold detail and the excellent grouping of the several parts, and, although a great deal of ornament is applied, the general effect is one of repose and grandeur. The omission of the two towers on either side of the principal entrance detracts greatly from the possible effect of the composition as a whole, but, despite this fact, there is a sense of magnificence about the building which is produced by the maintenance of good proportion and outline, culminating in the splendid dome, which is undoubtedly the feature of the design. The whole of the façades are in Portland stone, and the style adopted is somewhat free in treatment, the main window openings having semi-circular heads and being separated by columns with composite caps treated in an original manner, while large *motifs* occur over the windows, each appropriately carved with emblematical ornament. The frieze is cut up by window openings, and carved brackets occur over the columns and support the large cornice forming the crowning member of the Order. The treatment of the dome is full of interest, and it is a splendid example of leadwork, the whole dome being covered with this material. The plan of the dome is practically a square

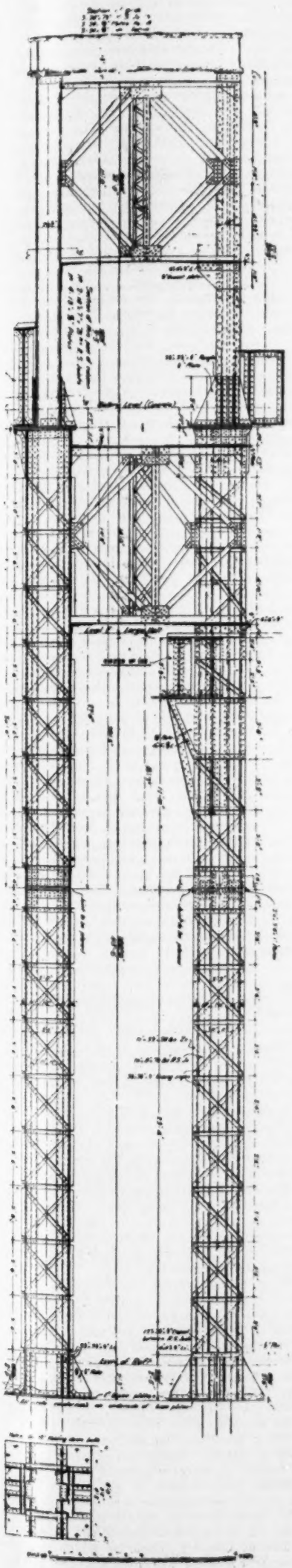

Fig. 10. Steel Lattice Stanchions.

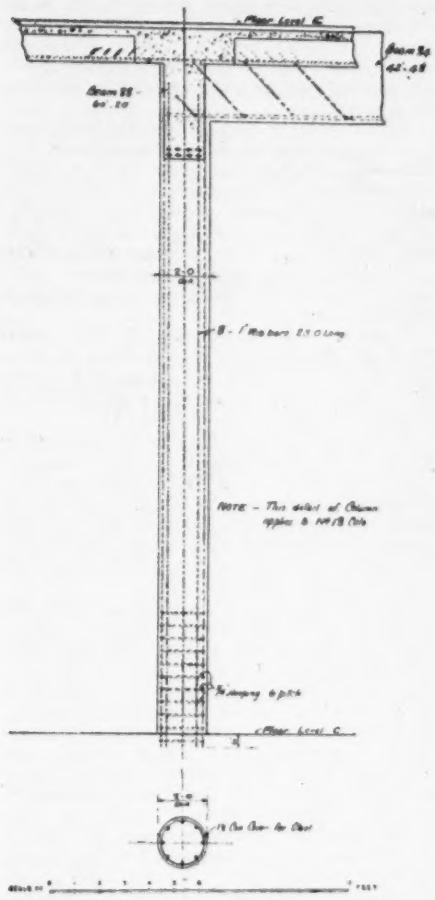

Fig. 11. Detail of Reinforced Concrete Columns supporting Main Hall.

with the corners cut off, giving four large faces and four small surfaces, and at the bases of the latter are ornamental lead trophies, 24 ft. 6 in. by 13 ft. 6 in., these being modelled by Mr. H. Poole and cast by Messrs. J. W. Singer & Sons, of Frome. At the gallery level and on the lantern are four lead vases, and the dome is further enriched with a frieze of leaf-work and swags consisting of flowers and shells, executed by the above firm and modelled by Mr. Henry C. Fehr from the architects' designs. The top of the lantern is surmounted by a copper gilt finial, which, although not symbolical, has aroused some interest and discussion since being placed in position. The general treatment and effect of this dome can be seen in the illustration of this portion of the work, which is a reproduction of the architects' original drawing. The interior treatment cannot be classified as any distinct style—although exhibiting traces of French influence—it being obviously the creation of the designers without any attempt at a slavish copy of any particular period of architecture. The treatment of the Large Hall is somewhat simple in character, there being no columns, as the galleries are constructed on the cantilever principle to prevent obstruction in the body of the hall. A very fine organ is situated at the west end of the hall, and this forms quite a feature with a well-designed case of oak. This latter material is employed for all the woodwork, including the seats; and the doors leading to the galleries are treated with overdoors somewhat ornate in character, having curved pediments terminating with scrolls and vases containing flowers, which are excellently carved. The domed ceiling is enriched with coffers, and has a central feature of plaster ornament masking a ventilation opening. Four large electroliers are suspended from the dome, and these are of bronze with the lights placed within moulded glass, each electrolier containing twenty-four lights, twelve of which are placed inside the main body of the pendant and the remainder in groups of three suspended around same. These fittings, together with the wall brackets, were carried out to the designs of the architects, and must be considered as very successful.

Some excellent work is to be seen on the entrance hall and grand staircase, both as regards design and execution, the material employed for practically the whole of this portion of the building internally being Roman marble of a soft grey colour, which is a natural hard limestone capable of taking a fine gloss polish. The staircase itself is a wonderful piece of work, having flowing strings and being very bold in treatment, with wide flights and continuous ramps running up to a height of forty steps, while the newel abutments to these strings each weigh about one ton and a half.

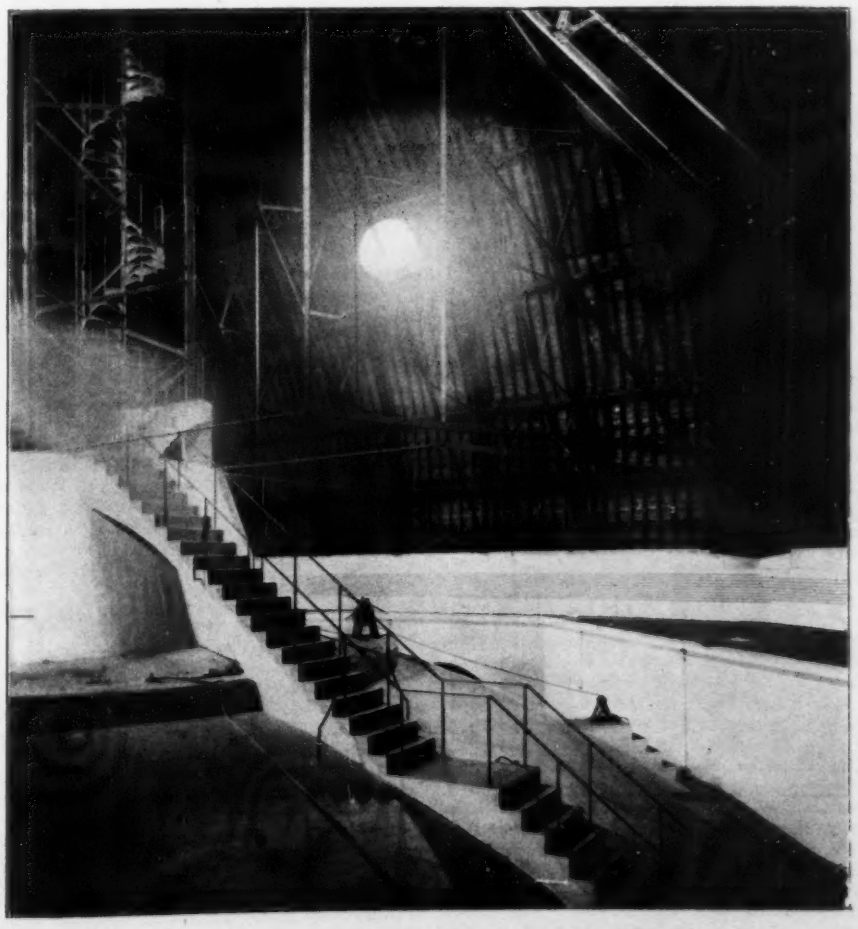

Fig. 12. View showing Construction of Outer Dome.

The balustrade is of iron with bronze enrichments, and in connexion with this are four standards in iron and bronze, surmounted by octagonal bronze lanterns, the whole being of masterly design. The main entrance vestibule is elliptical on plan, and has the marble work carried up to the ceiling level, the walls being penetrated by a series of eight arches. The geometrical paving is also carried out in Roman marble, and similar material is used for the marble dado in the upper entrance hall, the lamp standards, and the door architraves, the latter being finished with a frieze and cornice at the head, where an example of the adaptability of the material for carved work can be seen. The whole of this work was carried out by Messrs. J. Whitehead & Sons, of Kennington Oval, who also supplied the monoliths and piers in the upper entrance hall, which were executed in "Arni Fantastique" marble.

The Library and Small Hall are very successfully treated with enriched and panelled ceilings, and columns with moulded caps and fluted neckings, all simple in character but dignified and effective, while the tea-rooms are also simple in treatment, relying greatly on the flat-domed ceilings mentioned in the constructional notes.

The heating and ventilation scheme, which was carried out by Messrs. Ashwell & Nesbit, has been carefully considered in all its details, economy and efficiency being the primary objects. The Large and Small Halls are dealt with on the Plenum system, while the smaller rooms are dealt with by means of ventilating radiators, with the vitiated air extracted by centrifugal fans. The supply of air to the Large Hall is sufficient to give 1,000 cubic ft. per hour per head to 2,700 occupants, and this is supplied by means of a large centrifugal fan, fixed in the roof space, which draws it directly from the outside and causes it to be passed over a filter screen to cleanse and purify it before it is passed into the building. After leaving the fan this air is passed over heating batteries, so that it can be raised to any desired temperature. The whole of the radiators to the small rooms, and also the heating batteries in connexion with the Plenum system, are worked on the Novacuumette system, the heating medium being steam or vapour below atmospheric pressure, which enables the heating surfaces to be kept at a low temperature, and thus avoiding any unpleasant scorching of the air. The temperature of the Large and Small Halls and upper rooms is automatically controlled by means of thermostats, which shut off the heat in the radiators or batteries when the predetermined temperature is reached. An excellent system of hydrants is provided for fire purposes, and the sewage is dealt with by Shone's pneumatic ejectors.

This building must be considered as excellently equipped in every way, and architecturally it must rank with the finest buildings erected in this country of recent years, showing a bold and masterly treatment wherein the designers have realised an ideal based upon perfect proportion, which is the essence of true architecture. The general contractors for the work were Messrs. Dove Brothers, of Islington.

The Portland stone used in the building came from the old-established quarries of Mr. F. J. Barnes, Portland, Dorset.

The fireplaces were supplied by Messrs. Bratt, Colbran, & Co., Mortimer-street, W.

Other firms who have carried out work are Messrs. Archibald D. Dawnay & Sons, Ltd., steel and iron construction; Messrs. Strode & Co., lighting; Messrs. H. H. Martyn & Co., plastering and ornamental work; and the Associated Portland Cement Manufacturing Company, who supplied cement, etc.

FACTORY BUILDING VENTILATION.

THE building recently completed for the Bosch Magneto Company at Springfield, Massachusetts, is 315 ft. long by 66 ft. wide by four stories high, being cruciform in plan, with a main stairway at the centre and similar stairways at either end of the main portion.

The staircase wells have been utilised as ventilation ducts, through which air is passed by exhaust and blowing fans.

Over the main stairway there are two fans with the combined capacity of 200,000 cubic ft. per minute, and blowing fans of 30,000 cubic ft. per minute are provided for the ducts at the ends of the building.

Air is admitted into the ducts from the corridors extending along the centre line of the building, and communicating with the workrooms on either side by means of louvres, which permit the direction and volume of the air passing through the rooms to be regulated as necessary.

In cold weather the fans over the main stairway change the air in the workrooms only twice an hour, fresh air being drawn in partly through the walls and gaps in the windows, and partly through galvanised-iron pipes along the ceilings, and passing through the outer walls. The pipes are of 6-in. diameter and suitably perforated for the supply of fresh air, which mixes with the warm air of the room as it gravitates downward.

Exhaust air is drawn away by the louvres fixed near the bottom of the partitions on either side of the corridors, and passing along the latter enters the main stairway ventilation duct, whence it is discharged into open air.

In warmer weather, when the windows of the workrooms can be opened, the air is changed more frequently, up to twelve times an hour, if thought desirable. As all the windows are opened mechanically in groups, and the gear cannot be interfered with by the workpeople, the regular operation of the ventilation system can be readily ensured.

In very warm weather the exhaust fans are run in the early morning so as to draw the cool night air through the building and reduce the temperature of the interior. During the daytime all windows are closed, and fresh air is blown in by the fans at the end of the building, after having passed through cooling apparatus of the waterspray type. Water for this plant is drawn from wells at the rate of about 60 gallons per minute for each apparatus, its average temperature being about 54 deg. Fahr.

The forge and hardening-rooms and some of the toilet-rooms are ventilated independently by means of the fans at the ends of the main building, with the object of keeping fumes and gases away from the ordinary workrooms.

THE INTERNATIONAL CONGRESS FOR TESTING MATERIALS OF CONSTRUCTION.

SOME idea of the importance attaching to the recent Congress of the International Association for Testing Materials may be gathered from the fact that nearly 200 papers and reports were submitted for consideration, and will be issued in five volumes, forming part of the second volume of the *Proceedings*.

The business of the Congress was opened by the Presidential Address of Dr. Henry M. Howe, and the professional work of the gathering was carried on by three sections, by which eighteen meetings were held.

Section A was devoted to metals; Section B to cement, stone, and concrete; and Section C to timber, bitumen, rubber, and other materials.

In view of the enormous number of papers presented and of the fact that many of the subjects discussed are quite beyond the scope of this journal, we mention in the subjoined notes only a few of the communications appealing more or less directly to our readers.

Section A.—A paper by Mr. H. Baucke on "The Action of Electrolytes on Metals under Stress" supports the theory that metals under stress are in a metastable state, which may pass into the stable state under the action of an electrolyte. The paper by Mr. F. N. Speller on "Comparative Service Obtained with Wrought-Iron and Soft Steel Pipes as Water Lines" contains a large amount of data collected in the United States on the corrosion of pipes, the tendency of the data being somewhat against the opinion generally entertained in favour of the first-mentioned metal. Among other papers discussed in the same section were "Testing Methods for Rivet Steels, Steel Wire, and Welded Metal," by M. Charles Frémont; "Tests for the Elongation and Ductility under the Drop-Testing Machine," by Dr. P. H. Dudley; and many others dealing with the properties and testing of metals.

Section B.—In this section the Committee on the Durability of Building Stones recommended that laboratories should be asked to adopt the Hirschwald method of classifying stone in respect of durability against weathering. Mr. P. H. Bates reported that the United States Bureau of Standards had made an exhaustive investigation of building failures alleged to be due to electrolysis in concrete, and had only been able to trace one such failure to the cause mentioned. In a paper entitled the "Progressive Increase in Strength of Cement Mortars" M. E. Candlot recommended the omission of all requirements for increase of strength between seven and twenty-eight days, a recommendation supported by Mr. Bertram Blount, Dr. Dyckerhoff, Dr. F. Schott, Mr. W. C. Hanna, and others. The paper of Mr. A. Poulsen on "Diatom Earth as a Pozzolanic Admixture for Cement" elicited the general opinion from members present that the increased strength of such mixtures was due mainly to the extremely fine grinding and thorough mixing of the product, and Mr. R. L. Humphrey stated the view that mixing fine sand or clay with cement would be as efficacious as diatom earth. Four papers were presented on the Le Chatelier test for the constancy of volume of cements, the authors being Messrs. Bertram Blount, M. Gary, F. Schule, and J. Bied. This subject is one of somewhat controversial character, the test in question being strongly opposed by leading German authorities. It was finally decided that the task of further examining all methods of accelerated tests for the constancy of volume of Portland cement should be referred to a Committee of the Association.

Section C.—In papers on "The Volume Conception in the Testing of Paint Materials," by Mr. G. W. Thompson, and the "Bitumen Content of Coarse Bituminous Aggregates," by Mr. Prevost Hubbard, attention was drawn to the fact that a statement of the proportions in percentages of the total weight may be very misleading in cases where the materials are of different specific gravities. A valuable communication by Professor Ira H. Woolson and Mr. Rudolph P. Miller contained elaborate data concerning fire tests of floors in the United States. In all, eighty-two tests were reported, and from them the following conclusions were drawn:—Terra-cotta and concrete floors can be made perfectly safe against fire; reinforcement should have 1 in. protection in slabs, 1½ in. in beams, and 2 in. in girders; structural steel beams should have 1½-in. to 2-in. protection; trap rock makes the best aggregate for both strength and fire resistance, but 1 : 2 : 5 cinder concrete has a high resistance to fire, its porosity being a serious defect for some uses. Tests for oils were discussed in several papers, one of the most important being by M. Emil Conserman, of the Belgian State Railways. The question of testing materials for road construction was brought forward by M. A. Mesnager, of the Public Works Department, Paris. It is satisfactory to note that this subject will be taken up by a Committee working in collaboration with the executive of the International Roads Congress.

SAFETY LOCKS FOR AUTOMATIC LIFTS.

SERIOUS accidents have happened through leaving open, or through opening at improper times, the gates giving access to the wells of automatic lifts.

Messrs. Smith, Major, & Stevens, Ltd., have devoted considerable attention to the problem of devising a lock which will prevent the opening of such gates except when the lift-cage is at the proper level relatively to the gate opened.

The lock which has been evolved by them as the result of their study differs radically in its mode of action from all other locks for lift gates. Its predecessors are actuated entirely by the closing of the door or gate; their lock is operated independently of this.

Three things have to be done, viz., shut the door or gate, latch it, give current to the machine. The faults of the old systems arise from a futile attempt to make these three things occur simultaneously, an almost impossible combination. To secure a safe result the three things must be done in proper sequence, and with the fitting under consideration the order is as follows. Firstly, the door or gate must be completely closed; until that is done nothing more can be effected. Secondly, the gate is latched; until that is securely done it is impossible to give current to the machine. Thirdly, the current is given. On opening the gate the reverse order is equally definite; first the current must be cut off, and only then can the gate be unlatched and finally opened.

The mechanical means by which the above described results are attained are as below described. The switch is contained in a cast-

iron box fixed on the gate or door frame at the height of an ordinary door-lock. A spring latch and a finger rigidly connected to it are attached to the gate or door. Fixed to the cage is an inclined striking plane. Projecting from the switch-box, in such a position that the striking-plane can operate it, is the interlocking lever.

Assume the cage to be at the floor level and the gate open, in which position the lift is in the sole control of that floor, and the cage cannot be moved by a person on any other landing.

The intending user enters the cage, closes the gate, and latches it. After the latch has properly engaged the finger attached to it operates the switch and closes the circuit, enabling the cage to be moved. The passenger now presses the button, and the cage moves away from the landing, of course carrying with it the striking plane which has been keeping the interlocking lever out of engagement. When the cage has travelled about 18 in. from the floor level this lever is free to engage with the brush carrier, and it does so under the control of a compression spring, which is so enclosed that even if it break, the pieces cannot escape, and the spring continues useful, though broken. The lever holds the latch and switch in the closed position until the cage returns to the floor, when the foregoing operations are performed in the reverse order, *i.e.*, first, the plane disengages the locking lever when the cage is within 18 in. of the floor level. The passenger is then able to move the gate-handle, which first opens the circuit and then unlatches the gate, permitting it to be opened.

As stated above, immediately the lock circuit is broken it becomes impossible to control the lift from any floor other than that at which the cage stands. This safeguard makes entrance to, exit from, or loading of the cage, a perfectly safe proceeding, and at the same time makes it impossible to inadvertently open a gate or door leading into the lift well, except when the cage is opposite to it.

CONSTRUCTION NOTES.

Cinder Concrete and the Causes of its Disintegration. THE following is an epitome of an investigation made at the University of Nebraska, as set forth by Mr. George Borrowman, into the causes of disintegration as it occurs in concrete having a cinder aggregate. The experiments made suggested the probability that oxidation of iron and sulphur produced internal stress and consequent cracking, aided, no doubt, by the general weakness produced by the diffusion of soluble sulphates. This view was confirmed by finding that the efflorescence, found on the surface of the disintegrating concrete, contained ferrous sulphate. These results were then attempted to be brought about by substituting, for cinders, artificial iron sulphide, prepared in several ways, but the mixtures did not behave similarly. On breaking open the blocks, the sulphide was found to be unchanged, surrounded by hard, compact cement. Soluble sulphates being absent in these trial mixtures, the blocks had, of course, greater initial strength than those containing cinders, and would have withstood considerable stress, had there been any applied. The lack of oxidation, in these tests, indicated that, in the case of the cinders, the necessary oxygen must have come from the cinders themselves, since they were equally placed in relation to atmospheric aerations.

This observation drew further attention to the composition of the cinders used when it was found that about one-third of it was a very porous coke. As is well known, coke, as other forms of carbon, will persistently seclude large amounts of oxygen gas.

According to the experiments of Messrs. Starr & Lewis, air-dried coke contains absorbed gases to the extent of 0·7 cubic centimetre per gramme of coke, 2 to 6 per cent. of the gases being oxygen.

The oxidation observed in the Nebraska tests was most pronounced where the coke was present in the concrete. Some pieces of coke picked from the stock of cinder, when analysed, showed about 1 per cent. of sulphur, in the form of sulphide; that is capable of undergoing oxidation.

In further experiments, some of the original stock of cinders was exposed for a period to air and moisture, until, on washing, it showed the presence of no soluble sulphate.

It was then made into a block of concrete similar to those prepared before, 1 : 1 : 1, when under parallel conditions no disturbance took place, the material remaining firm and compact.

From these tests the opinion is expressed that cinders with much sulphide and sulphate in them are likely to give unsatisfactory results, and especially so if there be much coke or porous air absorbent material present. Such material may be improved by methods that bring about the removal of the injurious components, and in this direction are to be mentioned weathering, with occasional washing until the ferrous compounds and sulphur have been oxidised to their full extent, and subsequently washed out.

Leith Dock Extension. THE Works Committee of the Leith Dock Commission have approved of a scheme for dock extension at Leith and Newhaven, the estimated cost of which is about 250,000*l*. It is proposed to carry the work out gradually, and the completion of the scheme might occupy from twelve to fifteen years. It is recommended that Parliamentary powers should be sought to enclose the area between Newhaven and the West Pier, Leith, to provide additional facilities for the shipping trade. Power would also be required to extend the Imperial Dock and to build an embankment extending eastwards from the dock. By a sea embankment between Newhaven and Leith an area of about 120 acres would be enclosed.

Glazing Tests. THE British Fire Prevention Committee has issued a further report on its series of glazing tests; this time in respect of three windows glazed with "Chadrac" electro-glazing and submitted for review by Messrs. Chater & Sons, London. A feature of the report is that whilst up to the present the limit of fire-resisting glazing has been on a panel measuring 2 ft. by 2 ft., the panel here under review is just double the size—*i.e.*, 4 ft. by 2 ft., and this is certainly an interesting achievement for glazing under fire tests for one hour at temperatures ranging up to 1,600 deg. Fahr., followed by the application of water from a steam fire-engine at short range.

Buildings Suitable for Grinding Mills. TWO EXPLOSIONS in November, 1911, one in Glasgow and another in Liverpool, attended with loss of life and destruction of buildings, have been reported upon by H.M. Inspectors of Factories. In the first case the millstones employed were grinding peas, beans, and wheat, and the explosion was believed to be started by a fall of dust composed of those foods from the overhead beams of the room on to a portable Bunsen burner. The dust found on some of the beams was very fine, resembling pale-brown flour, and it lay there to a thickness of 2 in. to 5 in. When tested it was found to be more readily ignited in an explosion tube than coal dust; firing at 1,050 deg. C., and the flame travelling through the whole of the tube as a bright flash.

These deposits of dust were probably disturbed by the initial explosion, and served to propagate the explosion wave throughout the entire building. In this case, as in the second one, it is recommended that naked lights be not used, in such rooms, that smoking and the carrying of matches by the workmen be prohibited, and that there be frequent cleaning of floors, beams, rafters, etc., the dust as far as practicable being removed by vacuum appliances.

In the second case, where thirty-nine persons were killed and 101 injured, the explosion originated in the basement where disintegrators for oil cake, beans, and other materials were at work. The incident which started the explosion is considered to have been the breaking of the driving belt of one of the machines—a belt 6 in. wide, running at 5,000 lineal ft. per minute.

An examination of the dust produced and scattered about by the disintegrators and the attendant elevators showed it to contain 9·63 per cent. of moisture, 6 per cent. of ash, and the remainder combustible material. This fine dust, if present in the air in small quantities, was not explosive, but if forming a dense cloud it would explode in the presence of a lighted match, an ordinary gas jet, the electric flash at the fusing of an electric-fuse wire, and the spark produced by breaking the circuit of an electro-magnet.

The probable origin of the explosion in question was either of the two latter causes, viz., a spark or flash of light.

Where carbonaceous dust is generated or present in dangerous quantities the rooms should not have others over them, nor should they adjoin higher buildings which might be affected by any explosion and the roof should offer little resistance to a force from within. There should be no ledges or other places where dust could lodge therein, and the grinding and elevating machinery should be dust-proof. As an aid towards avoidance of sparks, there should be provided on the entry to each disintegrator an electro-magnetic separator to abstract any particles of iron or steel that might perchance be mixed with the foodstuffs, and if allowed to gain access might cause trouble.

A Point in Reinforced Concrete Design. IN a note contributed to a French contemporary M. Koechlin draws attention to an important point which does not always receive attention by designers of reinforced concrete structures, and which if neglected may result in considerable diminution of effective resistance.

Referring to bends in round bars used as tension reinforcement, the writer points out that the change of direction of the force at the bend develops compression in the concrete, the intensity of the stress being inversely proportional to the radius of curvature of the bend.

Denoting by R the radius of curvature; d, the diameter of the bar; t, the tensile stress in the steel; and c, the compressive stress in the concrete, we have :—

$$c = \frac{\pi d t}{4 R} \quad . \quad . \quad . \quad (1)$$

Taking into account a given limit of permissible stress in the concrete, the minimum radius of curvature for the bend of a bar will be :—

$$R = \frac{\pi d t}{4 c} \quad . \quad . \quad . \quad (2)$$

Assuming the limiting stress, c, to be 700 lb. per square inch, the radius of curvature, R, for a bar of given diameter will vary with the tensile stress, t, developed in the steel, as shown by the subjoined table, which we have calculated by formula (2) :—

MAXIMUM RADIUS OF CURVATURE FOR BENDS.

Diameter of Bar.	Tensile Stress in Steel (pounds per square inch).				
	10,000	12,000	14,000	16,000	18,000
In.	In.	In.	In.	In.	In.
¼	2·8	3·4	3·9	4·5	5·0
½	5·6	6·8	7·8	9·0	10·0
¾	8·4	10·2	11·7	13·5	15·0
1	11·2	13·6	15·6	18·0	20·0

The Preservation of Wood with Fluorides. HERR R. NOWOTNY describes in the Austrian *Chem. Zeit.* of 1912 how that for the purpose of increasing the preservative effect of sodium fluoride on wood it is now being mixed with nitrophenols. One of these mixtures, known as "Bellit," contains 90 per cent. by weight of a sodium fluoride and 10 per cent. of dinitrophenolaniline, the sodium fluoride being of 90 to 95 per cent. strength or purity. This mixture is used because, whilst active as an antiseptic, it does not, like free dinitrophenol, act upon the iron vessels in which the timber is impregnated. The selective phenomena observed when treating timber with mixtures of zinc fluoride and hydrochloric acid are reproduced in the "Bellit" treatment just mentioned.

Impregnation by steeping results in the solution being absorbed as a whole, but in the hydrostatic and pneumatic pressure methods the nitro-compound is absorbed more rapidly than the fluoride of sodium. Examination of telegraph poles which had been treated six to seven years previously, *i.e.*, in the year 1905 and 1906, with copper sulphate and zinc fluoride respectively showed that, in general, the latter was much the better preservative.

THE BUILDING TRADE.

INLAND REVENUE REPORT:

THE LAND TAXES.

THE fifty-fifth Report of the Commissioners of Inland Revenue has recently been issued, and those interested in land will turn to those pages which give official information up to March 31, 1912, as to the revenue from the new land taxes. It will be remembered that up to March 31, 1911, in Great Britain 10,700,000 forms had been issued and 9,690,000 returns received back. On March 31 last the position was much the same, 10,874,568 forms having been issued and 10,097,769 returns received. In consequence of the decision in Dyson *v.* Attorney General (see the *Builder*, December 1, 1911) the Report states that revised forms were issued where no returns had been received omitting the requisition held *ultra vires* requiring occupying owners to state the annual value of the land.

The number of valuations to be made as at April 30, 1909, was approximately estimated as 11 millions. On March 31, 1911, provisional valuations had been made numbering 298,294. Up to March 31 last the number of provisional valuations made was 1,799,468; thus in the year about 1¼ million provisional valuations have been made. Presumably the system is in full working order, and therefore an estimate may be made of the time required to complete the original valuation as on April 30, 1909. The rate of progress would appear to show that the valuation will occupy between seven and eight years, and that in 1917-18 we may still have valuers determining the values of properties in April, 1909.

If it be urged that practice may result in greater efficiency and greater celerity it must also be recollected that as each year passes the staff will be more occupied as "occasions" arise which necessitate revaluation. In the year 1911 67,238 such "occasions" arose, but in the year 1912 they numbered 205,112; thus the time is more likely to be prolonged than lessened unless the staff is continually increased.

Interest will chiefly centre in the results attained by this herculean labour, and here the *ridiculus mus* creeps in, for increment value duty from the commencement of the operation of the Act has yielded the grand total of 6,220*l.*; reversion duty, 22,755*l.*; and undeveloped land duty, 31,298*l.*; total, 60,273*l.* These figures, of course, take no account of the cost of valuation and collection; but, turning to the Commissioners' Report for last year, it is interesting to note that the cost to the State for the services of the land valuation officers—that is to say, of those persons engaged temporarily to issue forms, etc., and whose services terminated at the close of last year, and were not connected with the actual valuation—amounted to 174,342*l.* Thus the yield from the land taxes up to March 31 last had paid about one-third of the salaries of those temporarily employed in preliminary arrangements.

When these figures are made the subject of public discussion the direct issue of whether the new land taxes are revenue yielding taxes is always evaded by advocates of the system by a reference to an increase in the estate duties. In this connexion it is interesting to note that in this latest Report of the Commissioners a table, No. 165, is included that we are unable to find in its predecessor. A good deal is likely to be heard of this table. It shows the amount of estates brought in by accounting parties for estate, etc., duty, and the amount by which it was increased by the valuation department. In the year ending March 31, 1911, the "increase due to official valuation" is stated to be 3,282,983*l.*, or 7·44 per cent.; and in the year ending March 31, 1912, 3,900,137*l.*, or 5·59; total for the whole period, 7,183,120*l.*, or 6·31.

In the absence of tables for former periods it is impossible to say how this increase is arrived at. There may always have been an increase on the amounts so brought in, but, however this may be, a reference to Mr. Lloyd George's Budget speeches will show that this aspect of the question was not before his mind when he introduced his celebrated Budget; he looked upon the new taxes as substantial sources of revenue, and although he said the full benefit of increment value duty would not be experienced at once, he gave substantial estimates of the revenue which they would raise, and would have scoffed at any opponent who dared to suggest that the total yield of the three new taxes up to March 31, 1912, would be but 60,273*l.*, as the event has proved. If the amount upon which the estate duty is assessed has been increased, this is not part of the Budget scheme, but, to use the Chancellor's own expression, is "a windfall, an unearned increment," unforeseen, which has resulted to the Government from the Act. A very ardent follower of the Government, but an astute critic, Mr. Morgan has, in his recent book, "The Blight on the Countryside," pointed out that if this increase is due to the new system of valuation it is surprising that the universal complaint should be that properties are undervalued in order that increment may accrue. Other causes have no doubt contributed to the increase, but, in any case, it has to be remembered that this increase is not revenue itself, but a capital sum upon which estate duty varying in amount is assessed. The total yield of the estate, etc., duty assessed on realty appears to be 3,013,197*l.*, so an increase of 5·59 per cent. in the year on the sum on which it was assessed does not, after all, represent a very large increased revenue.

Against any revenue derived from the system has to be taken into consideration not only the cost of valuation, but the serious disturbance to dealings in land and its depreciation in the market as distinguished from mere valuations.

It only remains to be noticed that amongst the judicial decisions on the duties on land values contained in this Report the Scotch decision negativing the possibility of increment occurring on minus values (see the *Builder*, April 26, 1912) finds no place. This decision is on appeal, and this Report contains no reference to the subject, but in the fifty-fourth Report this question was thus dealt with:—"It is to be observed that in the case of a property burdened by a heavy rent charge the assessable site value may be nil or even a minus quantity. This means that the charge is so heavy *that no one would take over the bare site thus burdened unless he were paid to do so.* This is especially the case in Scotland owing to the operation of the feuing system. *The liability to increment value duty will not be affected, any increase of value being reckoned as readily from a negative as from a positive quantity.*" The italics are ours. Presumably this view is still being acted upon.

GLASGOW BUILDING TRADE.

THE annual statement was made recently by the Lord Dean of Guild, Mr. Francis Henderson, at the usual meeting of the Dean of Guild Court. Mr. Henderson said that, as they all knew, the general trade of the country had recently been experiencing better times. But the wave of prosperity had not yet reached those trades with the work of which a Dean of Guild Court was more intimately concerned. The building trades of the City of Glasgow were still far from the enviable position which they occupied some years ago. That might be due to many things. It might be that in those years there was to some extent over-building. But if ordinary conditions had prevailed they would have heard less of the cry of over-building. The loss to the city by emigration and by overflow into suburban areas was rather apt to be forgotten by unsympathetic critics of builders. The building trades during the past year had had nothing to boast of, which no doubt was to some extent owing to the fact that there are still within the old city boundaries 18,620 unoccupied houses and 4,620 unoccupied shops, etc. The returns for houses generally, for warehouses, shops, and offices, for churches and halls, for schools, and for public buildings, all showed marked decreases in value. There had been a very great and, to his mind, satisfactory decrease in the number of houses consisting of one apartment. The returns for houses of three and four apartments and for single shops and workshops, etc., showed slight increases. But the past year was seen at its best in the returns for alterations and additions. Though the number of cases for these was much the same as in the previous year, the valuation of the work involved had risen from 105,885*l.* to 169,213*l.*

The figures given as to the average number of persons per room was still higher than what one would like to see, but in comparison with the figures of twenty and thirty years ago they showed a very marked improvement. Apart from that, sanitary and other conveniences had made great strides. The percentage of unlet rental was on the increase. In 1902 it was only 2·29 of the total rental. In 1907 it had risen to 5·35, and this year it had reached the high figure of 6·34.

A NEW ALLOY.

AN interesting exhibit at Olympia is shown at the stands Nos. 157 and 170 of the Metallurgo Syndicate, Ltd., sole agents for the new alloy, Ormolum. This metal has a rich coloured alloy, it is quite distinctive from brass, copper, bronze, or any deposits, and has the same colour throughout.

Messrs. Wakelin & Dent, who are the sole agents to the Syndicate, have made specimen

The Turnpike in Tottenham Court-road, c. 1800, after Rowlandson.

pieces of Ormolum to show the value of the metal. The staircase carried out in the Louis-Seize design is noticeable in passing down the main corridor. The whole of the work has been carried out by hand.

The firm also show grilles, electric light fittings, ecclesiastical work, cabinet furnishing, and other small decorative wares.

Messrs. Wakelin & Dent have prepared for distribution at this exhibition a pamphlet, and one learns from it some interesting facts of the past history of the firm. The illustration given herewith shows an engraving after Rowlandson of the Turnpike in Tottenham Court-road, about 1800, where John Wakelin, in 1770, founded a smithy, and his descendants carry on the business there. On visiting their factory in Tottenham-street, Tottenham Court-road, W., one can see the old forge built in 1770 still at work. Their factory is equipped with modern electric-driven plant, machine shop, etc., and their work will probably interest those who are seeking wrought-ironwork, bronzework, or anything in metal.

THE LONDON BRICKLAYER.

To *Notes and Queries* of October 5 Mr. P. Lucas (28, Orchard-street, W.) contributes the following note:—

"The word "bricklayers" has so changed its meaning some time since about the end of the XVIIIth century that it would be interesting to know which Dickens ("Sketches by Boz") intended to stigmatise—the skilled artisan or the unskilled workman, whom we term to-day "bricklayer" and "bricklayer's labourer" respectively. The bricklayer of the present time lays bricks, which is skilled labour, has to serve an apprenticeship, and earns twice the wages of the bricklayer's labourer, who digs foundations, mixes mortar, unloads and stacks bricks, and keeps the bricklayer supplied with the two last-named articles.

As late as 1780, and until the meaning changed, however, the term "bricklayer" was synonymous with the "builder" of to-day. One of the biggest contractors, as we should now say, of his period, William Hobson, of Markfield, Tottenham (died 1840), who built some of the London docks and the Martello towers on the Essex coast, was described at his marriage, *circa* 1780, as "bricklayer, Citizen, and Fishmonger"; and the XVIIIth century obituaries contain many references to "eminent bricklayers."

I do not consider that the "New English Dictionary" does justice to the changed meaning of the term "bricklayer," nor to that of the word "carpenter," which has undergone a similar process, having also been synonymous with our "builder" at a time when other than wooden or wooden-framed houses were rare.

The fusion of trades that has taken place is, of course, responsible for these altered meanings. Formerly, to build a half-timbered, lath-and-plaster house, a carpenter, a plasterer, and a tiler would have been separately employed. To-day one man would undertake the whole thing, the three different crafts having become departments of his business."

GENERAL BUILDING NEWS.

LIVERPOOL CATHEDRAL.

At a meeting of the Liverpool Cathedral Committee it was decided to proceed with the building of the first of the transepts at a cost of 79,000*l*. This work will be completed about three years hence, so that the transept will be consecrated at the same time as the chancel.

CHURCH HALL, DURHAM.

The foundation-stone of a new church hall and institute for the Parish of St. Margaret's, Durham, was laid on the 2nd inst. by Mr. C. D Shafto, M.A. The building will consist of a large hall to seat 400 persons, with classrooms and a billiard-room. The work is being carried out by Mr. C. W. Gibson, builder, of Durham, from designs by Mr. W. H. Wood, F.R.I.B.A., of Durham and Newcastle.

INSTITUTE, CORRIS.

An institute has been presented by Mr. Howell J. Williams, L.C.C., builder, of Camden Town, to his native village of Corris (Merionethshire), at a cost of upwards of 3,000*l*. Mr. B. M. Roberts, of Portmadoc, was the architect.

PAVILION, HOLYROOD PARK, EDINBURGH.

Plans for the erection of a pavilion for marksmen at Hunter's Bog ranges, Holyrood Park, Edinburgh, have been prepared by Mr. T. Duncan Rhind, A.R.I.B.A., according to a sketch suggested by Mr. Oldrieve, H.M. Board of Works, and have been submitted to the War Office for approval.

PICTURE HOUSE, KIRKCALDY.

Mr. Williamson, of Kirkcaldy, is the architect for a new cinematograph building which, when erected, will seat about 850 people. Over the building will be a roof garden, which will be used in summer for open-air entertainments.

TRADE NEWS.

Under the direction of Mr. H. R. Finn, Lic.R.I.B.A., architect, St. Albans, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air-inlets, has been applied to the new Adult School, St. Albans.

Messrs. Mather & Platt, Ltd., have been experimenting for some time past with a new design of vertical gas-engine, and have progressed so far as to have five in successful operation, three of them running day and night at a large works. Another, after a series of trials, is now in course of erection at a colliery. The engine is the invention of Mr. A. E. L. Chorlton.

Mr. John B. Thorp, of 98, Gray's Inn-road, W.C., sends us a card illustrating his models of houses, etc., which can be made at a reasonable cost and at about the same price as perspectives. These models are useful, inasmuch as they give a complete representation of a proposed building from every point of view.

Mr. B. Goodman, of 38, Haggerston-road, E., has secured the contract for the demolition of the old General Post Office buildings, and the whole of the materials are to be sold on the site. The façade and the Ionic columns are to be disposed of separately by special arrangement. The materials also include granite blocks, steel girders, glass-covered ways, weighbridge and York landings.

Referring to our extract from the *Builder* of fifty years ago, and our comment (p. 328 *ante*), Messrs. Kerner-Greenwood & Co., of King's Lynn, send us a copy of their booklet, explaining the uses of "Pudlo" in rendering roofs watertight. Among the testimonials is one from the Borough Surveyor of Swansea, stating that the roofs of the workmen's dwelling-houses are satisfactory, and that this work has been done about four years.

The Milford Haven Catholic Schools are being supplied with Shorland's warm-air ventilating patent Manchester grates by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

STAINED GLASS WINDOWS.

A single-light stained glass window, in memory of Mr. A. L. Peace, M.Inst.C.E., twenty-six years organist, and Vicar's Warden for fourteen years, given by his daughter, Mrs. T. R. R. Marsdin, wife of Councillor Marsdin, was unveiled recently in Thorne Parish Church by the Vicar, Rev. J. J. Littlewood. A two-light, stained glass window was unveiled in Langton Parish Church, Northallerton, on September 26, in memory of Mr. William Henry Fife-Cookson, late Captain, 9th Lancers, given by his wife and family. A large single-light stained glass window, in memory of Mr. Samuel Greenwood, Leah, his wife, and Hannah, their daughter, was unveiled in Buttershaw Parish Church on Sunday last by the Rev. J. W. Naylor, Vicar. The windows have been executed in the studio of Mr. Charles E. Steel, Tudor Studios, York-place, Leeds.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

THE following applications were dealt with by the Building Acts Committee of the London County Council at a meeting held during the summer recess of the Council. The names of the applicants are given in parentheses:—

Width of Way.

Islington, South.—Addition to a factory building on the eastern side of Paradise-passage, Islington (Messrs. Weibking & Co.).—Refused.

Southwark, West.—Erection of a motor garage at No. 5, Zoar-street, Southwark (Messrs. Field & Sons for Mr. G. J. Mathieson).—Consent.

Wandsworth.—Erection of two cottages on the western side of Roehampton-lane, Putney, with a forecourt boundary (Messrs. J. W. Falkner & Sons for Mr. S. Boulter).—Consent.

Width of Way, Lines of Frontage, and Projections.

Hoxton.—Erection of a building on the southern side of Wiltshire-row, Hoxton (Messrs. Lovegrove & Papworth for the Claude Eliot Lads' Club).—Consent.

St. George, Hanover-square.—Erection of a flue across the area in front of Herbert House, Lowndes-place, St. George, Hanover-square (Messrs. Trollope & Sons and Colls & Sons, Ltd.).—Consent.

St. Pancras, South.—Erection of an addition to a factory building on the northern side of Bidborough-street, St. Pancras (Mr. H. B. Hale).—Consent.

Woolwich.—Erection of additions at "The Castle Hotel," approached out of the southern side of Eltham and High-street (Mr. F. H. Buen for the Eltham Cinema Company).—Consent.

Width of Way, Line of Frontage, and Construction.

Hammersmith.—Temporary greenhouse in front of No. 229, King-street, Hammersmith (Mr. S. Grant).—Consent.

Width of Way and Deviation from Certified Plans.

Wandsworth.—Erection of a building at No. 177, High-street, Wandsworth, to abut also upon Dutch-yard (Mr. F. A. Powell for Mr. F. Reed).—Consent.

Deviation from Certified Plans.

St. George, Hanover-square.—Re-erection of No. 27, Albemarle-street (Messrs. Rix & Wilkins for Messrs. T. H. Perkins & Co.).—Consent.

Southwark, West.—Rebuilding of No. 31, Dolben-street, Southwark (Mr. W. J. Clayton for the South-Eastern Railway Company).—Consent.

Line of Frontage and Space at Rear.

Norwood.—Erection of buildings on the western side of Brixton-hill and the southern side of Cornwall-road, Brixton (Messrs. H. Wakeford & Sons for Messrs. J. & R. Bax).—Consent.

Space at Rear and Construction of Walls.

Hampstead.—Building at the corner of Finchley-road and Weech-road, Hampstead (Mr. H. A. Welch).—Consent.

Space at Rear.

Chelsea.—Dwelling-house upon the site of Nos. 70 and 71, Cheyne-walk, Chelsea, with irregular open spaces at the rear (Mr. C. R. Ashbee).—Consent.

Westminster.—Building at the corner of Francis-street and Stillington-street, Westminster (Mr. R. S. Ayling for the Girls' Friendly Society).—Consent.

Height of Buildings.

Westminster.—Building to abut upon Millbank and Dean Stanley-street, Westminster (Messrs. Gordon & Gunton for the British-American Tobacco Company, Ltd.).—Refused.

Buildings for the Supply of Electricity.

Bermondsey.—Steel platform adjacent to the boiler-house at the Neckinger electricity generating-station, Spa-road, Bermondsey (Mr. R. J. Angel for the Bermondsey Metropolitan Borough Council).—Consent.

Space at Rear and Alteration of Buildings.

Chelsea.—Additional story at the rear of No. 43, Hans-place, Chelsea (Messrs. I. Rowell & Son).—Consent.

Alteration of Buildings.

Brixton.—Alterations at No. 251, Clapham-road, Brixton (Messrs. Joseph & Smithem for the Rev. H. E. Simpson).—Consent.

City of London.—Erection of an additional story at Nos. 25 and 27, Bishopsgate, City (Mr. H. C. Clarke for Messrs. M. Samuel & Co.).—Consent.

City of London.—Alterations at No. 15, Aldersgate-street, City (Mr. H. Knight).—Consent.

Hackney, Central.—Alterations and additions at Nos. 65 and 67, Tottenham-road, Dalston (Messrs. Bromley & Sames for Mrs. A. Hunter).—Consent.

Paddington, South.—Erection of an additional story over the two-story portion of No. 26, Westbourne Park-road, Paddington (Messrs. Towers, Ellis, & Co., for Miss P. Browning).—Consent.

Wandsworth.—Addition at the rear of No. 37, East-hill, Wandsworth (Mr. R. T. Grove for Mr. H. A. Woodwell).—Consent.

Lines of Frontage and Formation of Streets.

Greenwich.—Formation or laying-out of a street for carriage traffic between Airy-street and South-crescent, Greenwich (Mr. J. S. Gilbert for the Governors of the Roan School Foundation).—Refused.

Formation of Streets.

Newington, West.—Street to lead from Alberta-street to Delverton-road, Newington (Messrs. Briant & Son).—Consent.

Norwood.—Formation or laying-out of a new street for carriage traffic to lead from Brixton-hill to Acre-lane, Brixton (Messrs. E. Evans & Co.).—Consent.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

BARRY.—Additions to hospital (350*l.*); Mr. J. C. Pardoe, Surveyor, Council Offices, Barry.

Bedford.—Factory and schools; Mr. K. Gammell, architect, 17, St. Peter's-street, Bedford.

Belfast.—Roman Catholic School, Willowfield; Messrs. Fennel & Clarke, architects, 7, Donegall-square, Belfast; Messrs. Feenan & Hughes, builders, Germoyle-street, Belfast. National school, Willowfield (3,500*l.*); Messrs. R. Carry, Ltd., builders, 106, University-street, Belfast.

Bishop's Stortford. — Swimming - baths; Messrs. Pollard & Tingle, architect, care of Mr. T. Swatheridge, Clerk, Council Offices, Bishop's Stortford.

Bournemouth.—Residence, Eastcliffe; Mr. H. E. Hawker, architect, St. Peter's-chambers, Gervis-place, Bournemouth.

Brentwood.—School; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Brighton.—Convalescent home, Ovingdean Grange Estate; Mr. Henry Tillstone, Surveyor, Town Hall, Brighton.

Bristol.—School (500 places); Mr. T. H. Yabbicom, Engineer, Town Hall, Bristol.

Broadstairs.—Bank, High-street, for the London, County, and Westminster Bank, Ltd., head office, 41, Lothbury, E.C.; additions to South Court Nursing Home for Miss Dowker.

Brookbottom.—Primitive Methodist church, Hague Bar, for the Trustees.

Cardiff.—Proposed offices and workshops, Womanby-street; Mr. W. Harpur, Engineer, Town Hall, Cardiff.

Clacton.—Sheltered bandstand (9,000*l.*); Mr. D. Lowe, Surveyor, Council Offices, Clacton.

Cleethorpes.—Shops, shelters, bandstand, etc. (600*l.*); Mr. E. Rushton, Surveyor, Council Offices, Cleethorpes.

Colne.—Nineteen houses, Allendale-street, for Messrs. Higgins & Payne.

Consett.—Theatre (5,000*l.*); Mr. J. Craven, builder, 439, Westgate-road, Newcastle-on-Tyne.

Coppull.—Sunday-school and parish rooms for the Vicar of the Church of St. John the Divine.

Darlington.—Surgeries (630*l.*); Mr. C. H. Leach, Clerk, Guardians' Offices, Darlington.

Dewsbury.—Additions at Cloth Hall Mills for Messrs. Machell Brothers, Ltd., shoddy and mungo manufacturers; warehouse, Old Bank-road, for Messrs. W. & G. Hanson; conversion of premises, Huddersfield-road, into warehouse, for Messrs. S. Stross & Son, rag merchants, Kilncroft, Dewsbury.

Eastbourne. — Houses, Langney Cemetery (667*l.*); Mr. H. Sisley, jun., builder, 76, Langney-road, Eastbourne. Plans have been passed as follows:—Seven garages, De Walden-mews, for Mr. W. Bannister; Mr. B. Stevens, jun., architect; Messrs. Peerless-Dennis & Co., Ltd., builders. Addition to Marine Hall, Longstone-road, for the Trustees; Mr. S. G. Scales, architect. Alterations to premises, Firle-road, for the Star Brewery Company, Ltd.; Mr. F. G. Cooke, architect; Mr. T. Dunlop, builder.

Folkestone.—School, Foord District (500 places); Mr. A. H. Gardner, Education Offices, Folkestone. Plans have been passed for a nurses' home, York House, Cheriton-gardens, for Miss Edden; Messrs. Bromley & Dahl, architects. Plans have also been passed for a school in Dixwell-road for Mrs. Cooper; Messrs. Bromley & Dahl, architects; Messrs. D. Baker & Co., Ltd., builders.

Fratton. — Rebuilding offices at Council School (1,848*l.*); Mr. S. Salter, builder, Yorke street, Southsea.

Greenock. — Showrooms, West Blackhall-street (2,000*l.*); Mr. J. M'Leod, Gas Manager, Burgh Hall, Greenock.

Glasgow.—Buildings, corner of Pollokshaws-road and Langside-avenue for Mr. James C. O'Malley, spirit merchant, Crossmyloof, Glasgow. Twelve houses, off Kelvindale-road; Mr. Gavin Allan, builder, 218, Cathedral-street, Glasgow. Electricity generating-station and water-cooling tower at Clutha Works, M'Lellan-street, Plantation, for Messrs. P. & W. M'Lellan, iron merchants. Picture hall and shops, Govan-road, for the Govan Central Picture House, Ltd.

Grimsby.—School, Victoria-street (13,333*l.*); Messrs. J. H. Thompson & Sons, builders, 107 and 109, Victoria-street, Grimsby.

Harpenden. — Children's home; Messrs. Gordon & Gunton, architects, Finsbury House, Blomfield-street, E.C.; Messrs. Phillips & Blake, builders, High-street, Harpenden.

Hinckley.—Twenty houses; Mr. E. H. Crump, Surveyor, Urban District Council Offices, Hinckley.

Hoddesdon.—Addition to works, Burford-street, for Mr. T. M. Gardiner, cricketing goods manufacturer.

Hollybush.—Warehouse, Tredegar-road, for Mr. E. Brice.

Hove.—Factory; Mr. W. H. Overton, architect, 22, Ship-street, Brighton; Messrs. Lynn & Son, builders, Marlborough-road, Brighton. Plans have been passed for six houses, Lyndhurst-road and Palmeira-avenue, for Mr. W. H. Overton.

Huddersfield.—Bank for the West Yorkshire Bank, Ltd.; Messrs. J. S. Gibson, Skipworth, & Gordon, architects, 5, Old Bond-street, W.; Messrs. T. Bottomley & Son, builders, Brighouse.

Hull.—School, Boulevard (5,246*l.*); Messrs. G. H. Panton & Sons, Ltd., builders, 206, Anlaby-road.

Ilkley.—Picture house (3,000*l.*); Mr. H. Booth, architect, 42, Regent-street, Haalingden.

Inverness.—Dairy premises, Waterloo-place, for the Farmers' Dairy Company (2,200*l.*); Mr. T. Munro, architect, 62, Acadamey-street, Inverness.

Kilmarnock.—Extensions to mill for Messrs. Douglas Reyburn & Co., spinners.

Leven (Fifeshire).—Additions to Northfield House (3,000*l.*); Mr. A. C. Dewar, architect, 10, Durie-street, Leven.

Liverpool.—Alterations to No. 60, Hanover-street (455*l.*); Messrs. J. H. McGovern, builders, 26, North John-street, Liverpool.

Mansfield.—Twenty-five houses for the Mansfield field Garden City Estates Company.

Middlesbrough.—Sanatorium; Mr. S. E. Burgess, Surveyor, Town Hall, Middlesbrough.

Milford Haven.—Gas plant and purifier house (725*l.*); Messrs. F. Lloyd & Co., builders, Charles-street, Milford Haven.

Newport (Mon.).—Church; Mr. G. Halliday, architect, 19, Castle-street, Cardiff.

Newquay.—Block of shops; Mr. E. I. Ennor, architect, Bank-street, Newquay.

North Allington.—Eleven houses (1,870*l.*); Messrs. Francis & Co., builders, Bournemouth.

Northampton. — Houses, Bective Estate, Kingsthorpe (24,300*l.*); Mr. A. Fidler, Engineer, Town Hall, Northampton. The following plans have been passed:—Rebuilding of "Bull and Butcher" Inn, Bridge-street; alterations to "Ram" Hotel, Sheep-street; additions to Franklin's Garden Hotel, Weedon-road; and garage, Cattle Market-road, for Messrs. P. Phipps & Co., Ltd.; extensions to premises, Crane-street, for the British Crome Tanning Company; drill hall, Grafton-square, for the Trustees of the Grafton Lads' Institute; three houses, Moore-street, for Mrs. C. Warnes; four houses, King Edward-road, for Messrs. A. & W. Cleaver; engineering workshops, Kingsthorpe-road, for the Advance Motor Engineering Company, Ltd.; extensions to factory, Clare-street, for the Pioneer Boot Company; three houses, Loyd-road, for Mr. W. C. Throssell; four houses, Clarence-avenue, for Messrs. E. Archer & Sons; alterations to factory, Abington-grove, and erection of factory, Holly-road, for Mr. C. E. Gubbins; alterations to Freeman's Arms, Bailiff-street, for the Northampton Brewery Company, Ltd.

Norwich.—Wensum View Schools; Mr. C. J. Brown, architect, Cathedral Offices, Norwich.

Pembroke.—Housing scheme (60,000*l.*); Surveyor, Council Offices, Pembroke.

Penzance.—School; Mr. B. C. Andrew, architect, Biddicks-court, St. Austell. Hotel; Messrs. Cowell & Druitt, architects, Penzance.

Pontefract.—Baths (6,000*l.*); Mr. A. Nunweek, 87, Fargate, Sheffield.

Potterhanworth (Lincoln). — Eight houses (1,408*l.*); Messrs. Wallhead Brothers, builders, Ruskington, Sleaford.

Preston.—St. Anne's Roman Catholic Church (4,000*l.*); Messrs. Pugin & Pugin, architects, 51, North John-street, Liverpool.

Purleigh (Essex).—School (3,000*l.*); Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Reading.—Erection of the Hendrick Schools; Mr. W. S. Clutterbuck, Clerk, Town Hall, Reading; architect to be appointed by competition.

Rochdale.—School, King's-road; Mr. E. J. Holden, Education Offices, Rochdale.

Rosyth.—Institute (20,000*l.*) for the Y.M.C.A.

Sheffield.—The following plans have been passed: — Motor garage, Broughton-lane, stores, etc., Thames and Ribston-roads, and alterations to premises, Eben-street, for the Brightside and Carbrook Co-operative Society, Ltd.; additions to premises, Savile-street, for Messrs. Cammell, Laird, & Co., Ltd.; additions and alterations to Fitzalan Tavern, Fitzalan-street, for Messrs. W. Stones, Ltd.; house and transformer station, Bradfield-road, for Electricity Supply Department, Sheffield Corporation; additions to premises, Savile-street, for Messrs. J. Holding & Co., Ltd.; additions to Prince of Wales' public-house, Derbyshire-lane, and additions to Shakespeare Hotel, Bradfield-road, for Messrs. T. Berry & Co., Ltd.; additions and alterations to Wellington Hotel, Brightside-lane, for Trustees of Mr. R. J. Bentley; additions to premises, Lydgate-lane, for the Crookes Orphanage Homes Committee; additions to premises, Gibraltar-street, for Messrs. S. Waterhouse, Ltd.; five houses, Liberty-hill, for Mr. H. Barker; additions to premises, Sheffield-road, Tinsley, for Messrs. Hadfield's Steel Foundry Company, Ltd.; four houses, Crimicar-lane, for Messrs. S. Hancock & Sons; additions and alterations to premises, South-street Moor, for Messrs. Boots, Ltd.; additions and alterations to premises, Dixon-lane, for Messrs. F. J. Bramwell, Ltd.; four houses, Archer-road, for Mr. F. Wolstenholme; alterations to premises, Leigh-street, for Trustees, Baptist Chapel; alterations to premises, York-street and Hartshead, for Sir W. C. Leng & Co., Ltd.; three houses, Greystones and Horncastle roads, for Mr. J. A. Wragg; additions and alterations to "Star of Lemont" public-house, Hermitage-street, for Mrs. Mason; three houses, Wincobank-lane, for Mr. Percy Cooper.

Stafford.—Theatre, Martin-street; Mr. R. A. Glass, architect, Wolverhampton.

Swansea.—Cinema theatre; Mr. W. B. Jones, architect, 41, Wind-street, Swansea.

Tenterden.—Motor garage, East Cross, for Messrs. Siminson & Co., motor engineers, Tenterden.

Torquay.—Plans have been passed as follows:—Alterations to Bannercross Inn for the Plymouth Breweries; four houses, Shirburn-road, for Mr. E. Green; eleven houses, adjoining Parkfield-road, for Mr. J. H. Tucker. Plans have been lodged for six houses and café and shops, Babbacombe-road, and five houses, Walls-hill-road, for Mr. S. Blatchford.

Torrington. — Territorial headquarters; Messrs. Ellis, Son, & Bowden, Bedford-circus, Exeter.

Turton.—Proposed weaving shed for the Turton and Edgeworth Mill Building Company.

Waterfoot.—Chapel school, Burnley-road, for the Trustees of St. Peter's Roman Catholic Church, Newchurch.

Waterloo (Liverpool).—School (400 places); Mr. H. Littler, architect, 16, Ribblesdale-place, Preston.

Wednesbury.—Institute, Darlaston-road, for the Patent Shaft and Axletree Company, Ltd., Wednesbury.

West Thurrock.—School (300 places); Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Whitstable.—Picture palace, High-street, for the Whitstable Electric Theatre Company.

Wick. — Post-office, Market-place (about 7,000*l.*); Mr. A. Hall, builder, Mile End Joinery Works, Aberdeen.

Willington Quay.—School (1,400*l.*); Rev. A. Hoster, Vicar, St. Aidan's Roman Catholic Church.

Witton Gilbert (Durham).—School houses, at East Earl Industrial School (600*l.*); Mr. T. Douglas, builder, Close House, Durham.

Woking.—Motor garage; Messrs. Tubbs & Messer, architects, The Broadway, Woking.

Woodford Bridge. — Temporary school (400*l.*); Messrs. E. Smith & Co., builders, Stratford, E.

Worcester.—Proposed school (11,500*l.*); Mr. A. G. Parker, architect, Town Hall, Worcester.

Wrexham.—Mortuary; Mr. J. England, Surveyor, Town Hall, Wrexham.

Ystrad.—Picture theatre; Messrs. W. Wills & Son, Ystrad.

* See also our list of Competitions, Contracts, etc., on another page.

FOREIGN AND COLONIAL.

School Partitions, Malta.

The Commercial Intelligence Branch of the Board of Trade is notified by the Crown Agents for the Colonies that sealed tenders will be received at the Office of the Receiver-General and Director of Contracts, Valletta, up to 11 a.m. on October 17, for the supply of school partitions. Tenders are to be accompanied by a deposit of 10*l.* Copies of the specification and form of tender may be obtained on application to the Crown Agents for the Colonies, Whitehall-gardens, London, S.W.

BUILDING BY-LAWS.

At a meeting of the Committee of the British Constitution Association, held at its offices, 11, Tothill-street, on Friday, October 4, the following resolution was unanimously passed:—"That this Committee, acting in the interests of individual liberty and personal responsibility, cordially welcomes the recent circular of the Local Government Board in favour of securing the more flexible application of building by-laws in rural areas, and engages itself to do its best to influence the sanitary authorities to give the subject their most careful attention."

TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT.

Allen & Norris *v.* Superintending Architect of Metropolitan Buildings.

On Tuesday the Tribunal of Appeal under the London Building Act sat at the Surveyors' Institution to consider the appeal by Messrs. William Gilbert Allen and Henry George Norris against the certificates of the Superintending Architect of Metropolitan Buildings defining the general line of buildings on the western side of the street known as Fulham Palace-road, between Queensmill-road and the building known as 206, Fulham Palace-road. Mr. Courthope Munroe appeared for the appellants and Mr. F. Daldy represented the London County Council.

Mr. Courthope Munroe, in opening the case, explained that the appellants were builders of Fulham, who were developing a considerable estate there, and the present proceedings were really a sequel to a former appeal to the Tribunal, which was heard on December 12, 1911, and January 22 and March 1, 1912. In the present case the Superintending Architect had defined the line of buildings as between Larnoc-road, Queensmill-road, in relation to seven buildings shown on the plans, and the result of such definition would mean cutting off about 1 ft. from three of the shops and about 2 ft. 6 in. in the case of the other four. The previous case had regard to four shops erected in Fulham Palace-road on the other side of Larnoc-road to the seven shops now in question, and it was then urged that the Superintending Architect had taken a ridiculous extent of road for the purpose of fixing the building line. Ultimately the Tribunal decided that there was no general line of buildings in that portion of the road in which the four shops were situated, and consequently the decision of the Superintending Architect was reversed. He and his clients took it that this decision of the Tribunal meant that there was no general line of buildings on the whole of the section of the land which was then being referred to.

The Chairman (Mr. A. A. Hudson): We indicated that these four buildings might be the means of forming a building line.

Mr. Courthope Munroe said he did not suggest for a moment that they might not do this. The position his clients took up was that after this decision they were entitled to go on building so long as they did not advance beyond the line of the four shops, and they had proceeded to build the seven shops on that assumption. These seven shops were an exact replica of the four. They were set back 30 ft. 9 in. from the middle of the road, but, owing to the contour of the road, they were really about 2 ft. behind the four shops. He submitted that the true line was from the south-east corner of No. 206, which was one of the four shops, to the north-east corner of the parish hall at Crabtree-lane; or, in other words, that the line was controlled by the four shops, and if they kept a minimum of 30 ft. from the centre of the road they were within their rights. The Superintending Architect had commenced by going back 2 ft. 6 in. from the corner of No. 206.

The Chairman said the point they had to find out was whether that portion of No. 206 which projected beyond the line fixed by the Superintending Architect was a building or not.

Mr. Courthope Munroe contended that in the circumstances no question of projections arose. If they were building in a place where there was no general line of buildings they had not to consider projections at all. Sect. 73 of the Act only came in and entitled a person to make projections beyond the line in certain cases, and this, of course, presupposed a building line. In the case of the four shops the Tribunal held that there was no building line, and hence the question did not arise. The seven shops were continuous with the four, and there were no projections. The Superintending Architect in order to go back 2 ft. 6 in. had treated the architectural detail of the four shops as projections.

The Chairman said he did not quite understand why the Superintending Architect had gone back from the 2 ft. 6 in. In the present case it was not a question of a small projection, but the whole of the buildings were brought forward.

Mr. Daldy said he would argue the point later, but, so far as he knew, the front main wall was always taken to determine the general building line.

Mr. J. C. Radford, architect and surveyor, of Upper Richmond-road, Putney, explained the construction of the houses. The shop fronts were superimposed on the cellar wall. Above the shops were two floors, and bay windows were formed by recessing the front main wall.

In cross-examination, witness said he took it that the four shops fixed the general line of buildings at one end, and he would take a line parallel with the projections at the north-east corner of St. Clement's Church to fix the general line of buildings.

Mr. C. Botterill, surveyor, of Fulham, formerly Surveyor to the Borough Council, endorsed the evidence of the last witness, and put in a plan showing how he would fix the line, having regard to the curve of the road.

Mr. H. G. Norris, Mayor of Fulham, one of the appellants, described the buildings, and said the centre of the road was taken from a plan supplied by the Superintending Architect.

In cross-examination, witness said they commenced to build the seven shops the day after the Tribunal had given its previous decision. The foundations had already been got out nearer the road, but after the decision they decided to keep at least 30 ft. from the centre of the road in accordance with the wishes of the County Council. His view was that they were entitled to build so long as they did not go beyond the four shops. He did not think it was necessary to ask the Superintending Architect to define the general line of buildings, as it seemed to be foolish to make such a request when the Tribunal had just decided that there was no line.

The Chairman: You took the risk of defining the line yourself.

Witness said he had the certificate of the Tribunal in front of him stating that there was no general line of buildings in that section of the Fulham Palace-road. His view was that they must either keep level with or behind those four shops.

This concluded the case for the appellants, and Mr. Daldy called Mr. Millward, of the Architects' Department of the London County Council, who expressed the opinion that the line defined by the Superintending Architect was the right one.

Mr. Daldy addressed the Tribunal, and submitted that the Superintending Architect had fixed the line in a *bonâ-fide* manner, and Mr. Norris had fairly admitted that he took his risk as to what the line might be. He urged that, as a matter of law, the front main wall of the house ought to be taken into consideration. The whole object of setting back the buildings to the building line was not to preserve the centre of the roadway, but to preserve the general line of the houses in the interests of the houses themselves. If it was held that the extreme outside of a bay window was to determine the general line of buildings, then a man having once put up a bay window his neighbours would be entitled to carry up their walls vertically to the edge of the window. In the present case the general line of buildings between Crabtree-lane and Larnoc-road was made to depend on the end from which the appellants started their buildings, and they contended that No. 206 was to govern the whole thing. The Superintending Architect had, however, said they must look at the buildings beyond, and take these into consideration, and he had drawn his line accordingly.

Mr. Courthope Munroe asked the Tribunal to view the road and buildings, as the matter was one of importance to the appellants, who did not want to have to come before the Tribunal the next time they commenced building.

The proceedings were accordingly adjourned to give the Tribunal the opportunity of visiting the site.

LEGAL COLUMN.

Vendor *v.* Purchaser.

In the recent case of Taunton and West of England Perpetual Benefit Building Society and Roberts' Contract (current "Law Reports"), the Building Society were the mortgagees by assignment of the residue of a lease for 999 years of certain property, and they entered into a contract to sell the same to one Roberts. The contract was an open contract, and amongst other clauses it contained a provision that the property was sold subject to the covenants and conditions contained in the lease and to the rent thereby reserved, and that the assignment to the purchaser should contain a covenant indemnifying the Society against the said rent and covenants.

There were in the lease covenants as to painting of an unusual character, to be contained in a lease for so long a term, and before and at the time fixed for completing the contract the lessor was threatening proceedings for breaches of covenant; but neither the vendor nor the purchaser were aware of this. In answer to requisitions, the vendors only offered to produce the last receipt for rent. The purchaser was seeking a declaration that a good title had not been shown, and claimed a return of the deposit.

As regards the first point, the clause as to indemnity against breach of covenant, the Court held this to relate to future breaches or failure to pay rent, not to breaches in the past. On the second point the Court held the vendors not to have made out a good title, as the lease had become forfeitable. The vendors were selling under open contract, and were under obligation to show that the rent had been paid and the covenants performed. Sect. 3, sub-sect. 4, of the Conveyancing Act, 1881, does not take away this obligation; that sub-section means that, *prima facie*, the receipt for the last rent is evidence of the covenants having been duly performed, but it does not prevent a purchaser from adducing evidence that, in fact, the covenants have not been performed. It is necessary to bear in mind that this was an open contract, and that the purchaser had had no notice of the breach, as the decision turns on these two considerations.

LONDON COUNCILS.

Barnet.—The Urban District Council have passed amended plans for the erection of a cinematograph theatre at the rear of No. 122, High-street. The Surveyor has been instructed to prepare a scheme for the utilisation of the Old Barnet Brewery site.

Battersea.—Plans have been lodged with the London County Council by Messrs. Spalding & Myers for the erection of additions to the Baptist Chapel in Northcote-road.

Bromley.—The Council have accepted the tenders of Messrs. E. Peill & Sons, Bromley Common, at 873*l.*, for making up Quernmore-road, 1,213*l.* for making up Nightingale-lane, and 431*l.* for making up Talbot-road. The tender of Messrs. T. Wood & Sons, Ltd., Crockenhill, Swanley, has also been accepted, at 549*l.*, for making up Pinewood-road.

Ealing.—Sanction has been received from the Local Government Board to the borrowing of 7,087*l.*, the cost of erecting a secondary school and technical institute.

East Barnet.—A Sub-Committee has been appointed to consider the question of the housing of the working-classes. A plan has been passed for Mr. Geddes for the erection of a motor garage in Northumberland-road.

Enfield.—The Urban District Council has accepted the tenders of Messrs. Jennings & Grenfell, Freezywater, Waltham Cross, at 640*l.* and 1,175*l.*, for making up portions of Malvern and Durants roads, respectively.

Hammersmith.—The tender of the Adamant Stone Paving Company, 9, Bridge-street, Westminster, S.W., has been accepted by the Borough Council, at 305*l.*, for paving the footpath on the east side of a portion of Wood-lane.

Hanwell.—The Surveyor has been instructed to prepare a plan for the general widening of Boston-road. The tender of the Improved Wood Pavement Company has been accepted at 452*l.* 6s. for wood-paving the same road.

Hornsey.—The Highways Committee report the receipt of petitions asking that the asphalting of the carriageway of Fortis Green-road be continued for about 182 yds., owing to the motor-omnibus traffic. The Borough Surveyor, reporting on the question, states that the effect of this traffic upon the carriageways of Fortis Green, Fortis Green-road, and Colney Hatch-lane, macadam roads unsuitable for such traffic, has been disastrous. It is evident from the continuous repairs already carried out that the greater portion of the length of macadam road affected cannot be maintained by ordinary macadam repair during the autumn and winter months, and, unless a more permanent class of construction is immediately proceeded with the roads will become untrafficable. If the motor-bus traffic is to be permanent the best method, and, in the long run, the most economical, would be to construct these roads, except where the gradient is prohibitive, with a good concrete foundation and close-jointed, creosoted, soft wood-block paving; but such a scheme would necessitate the raising of a loan, and it would be some months before it could be carried out. It would, therefore, appear desirable to consider an intermediate, although much less durable, method of stripping off the existing macadam and laying down a tar or bituminous macadam carriageway, which, if tenders were immediately invited, could be proceeded with early in November. He estimates the cost at 3,380*l.* The Surveyor's suggestions are to be carried out. The following plans have been passed:—Mr. A. C. Dickie, alterations and additions to "Hillside," Jackson's-lane, Highgate; Mr. Francis Howkins, Golder's Green, thirty houses, Rectory-gardens; Mr. John Farrer, parish hall, Park-road, Crouch End.

Islington.—For testing the suitability of several forms of bituminous paving for use on roads where ordinary macadam is not satisfactory "Roadament," "Trinidad asphalt macadam," "asphalt macadam," "Val de Travers' natural asphalt matrix," and

"Bradshaw's granite asphalt" are to be laid in equal lengths on the margins of the carriage-way in Dorset-street. The estimated cost is put at 476*l*. The wood-paving in portions of Hornsey-road, Hornsey-rise, Seven Sisters-road, and Holloway-road is to be renewed or relaid at estimated costs of 900*l*., 200*l*., 300*l*., and 600*l*. respectively, and the creosoted yellow deal blocks required are to be obtained from Messrs. Gabriel, Sons, & Burtons, Commercial-road, Lambeth, S.E. Jarrah blocks are also required, and tenders are to be obtained for these.

Romford.—At a recent meeting of the Guardians it was decided to carry out by direct labour the building of an isolation hospital. The estimated cost is put at 484*l*.

Southgate.—The following plans have been passed:—Mr. W. R. Bertie, three houses, Lodge-drive, Palmer's Green; Mr. R. Cracknell, forty-one houses, Riverway, Palmer's Green; Mr. W. Moss, three houses, Amberley-road; Mr. W. J. Keene, jun., fourteen houses, The Crest, Palmer's Green; Mr. A. Arnott, three houses, Harlech-road; Mr. D. A. Paul, Presbyterian Church, Fox-lane, Palmer's Green; Mr. A. F. Simmons, three motor garages, Lightcliffe-road, Palmer's Green.

Tottenham.—The Engineer has been instructed to prepare quantities with a view to tenders being invited for the execution of private street works in South-grove and Barry-avenue. The following plans have been passed:—Messrs. Warren & Supart, on behalf of Mr. H. King, additions to Swan Hotel, High-road; Mr. F. Horton, additions to Godfrey Engineering Works, Boundary-road; Mr. S. W. Cranfield, reconstruction and additions to drill hall, Park-lane; Messrs. Brand, Pettitt, & Co., addition to Munro's factory, Cornwall-road; Mr. H. S. Couchman, on behalf of Mr. J. Immig, additions to bakery, High-road; Messrs. C. D. Monniger, Ltd., factory, Overbury-road; Mr. D. Gestetner, foundry at Cyclostyle Works, Broad-lane; Messrs. Rowley Brothers, Boundary Works, Crawley-road, Wood Green, five houses and shops, Lordship-lane.

Westminster.—The tender of Messrs. Wright & Son, 27, Wild-street, Drury-lane, W.C., has been accepted at 74*l*. 15s. for carrying out the necessary works in connexion with the rounding off of the corner of Buckingham Palace-road and Pimlico-road. The necessary paving and other work in connexion with the opening through of Noel-street to Great Marlborough-street is to be carried out at an estimated cost of 1,800*l*. The Engineer has been instructed to proceed with the work in connexion with the widening of Piccadilly, opposite Nos. 19 and 20, at an estimated cost of 750*l*. Repairs are to be carried out to the macadam carriageways of Grosvenor-road and Warwick-square at an estimated cost of 375*l*. Repairs are to be carried out to the footways of Park-street. The cost is put at 100*l*. Paving works are to be carried out opposite Nos. 44-56, Park-street at an estimated cost of 100*l*. In view of the probability of the Council's property, now occupied by the Westminster Workhouse, in Soho coming to the Council's possession the Housing Committee have decided to prepare a scheme for the erection thereon of working-class dwellings. The following plans have been lodged with the London County Council:—Messrs. Maple & Co., Ltd., alterations to St. James' Club, Brick-street: Messrs. Bywaters & Sons, Ltd., alterations to premises, Wellington-mews and Ham-yard, Great Windmill-street; Messrs. A. E. Hughes & Son, building site of White Lodge, Warwick-row.

Willesden.—Tenders are to be invited for making up Victoria-mews, Kilburn, and Kingthorpe-terrace, Dog-lane. Plans and estimates submitted by the Engineer have been approved for making up Bramston, Ridley, and Colin roads. The following plans have been passed:—Mr. H. Fowler, six houses, Palermo-road, Harlesden; Mr. G. A. Sexton, on behalf of Messrs. H. Sabey & Co., furniture depository, rear 31, Priory Park-road; Messrs. William Moss & Sons, additions at Parish Workhouse and Infirmary, Acton-lane; Mr. A. Baker, on behalf of Messrs. Charrington & Co., extensions at the Elm Tree beerhouse, High-street, Harlesden. Plans have been lodged by Mr. E. Cave for the erection of nine houses in Tatam-road.

Woolwich.—The Borough Council have received a communication from the London County Council, in reply to a letter urging them to promote legislation to secure an amendment of that part of the London Building Act, 1894, which relates to the fees chargeable by district surveyors, stating that from time to time they have considered the question, but that having regard to the peculiar position of London, so far as the administration of its building laws is concerned, no alternative method has yet been suggested which would remove existing anomalies without increasing the cost of the administration of the Building Acts in London, and that under the circumstances they do not see their way to take action in the matter at present. The Borough Council have decided to ask the Council to give the matter further consideration at the earliest opportunity. The following plans have been lodged with the London County Council:—Mr. F. H. Buen, 12, Woodland-avenue, Wanstead, adaptation of building at rear of Castle Hotel, High-street, Eltham, into cinematograph theatre; Mr. A. L. Edwards, 19, Ragland-road, Plumstead, houses, Cleanthus-road, Plumstead; Mr. R. Stewart, 24, Sloane-square, S.W., houses, Bexley-road; Mr. A. H. Jennings, 7, Woolwich-road, Belvedere, twelve houses, Cantwell-road, Plumstead. Plans have been passed for Mr. L. A. Stanton, 110, High-road, Lee, S.E., for six houses, Halons-road, Eltham, and for Messrs. Gordon & Gunton, Finsbury House, Blomfield-street, E.C., for a Wesleyan chapel and institute in Timbercroft-lane, Plumstead. Mr. J. O. Cook, architect, on behalf of Mr. E. Kemp, has lodged plans for the erection of a warehouse and shop in Spray-street, Plumstead.

OBITUARY.

Mr. G. T. Redmayne.

Mr. George Tunstal Redmayne, of whose career Mr. Paul Waterhouse gives some particulars in the current *Journal* of the Royal Institute of British Architects, was articled to Mr. Alfred Waterhouse, R.A., and practised in Manchester. "He was never greedy for multiplicity or magnitude of work," writes Mr. Waterhouse. "His personal thought and personal labour entered every detail of his designs, and he was exceptionally careful in making sure that nothing should appear in his work which was meaningless or nugatory. His comparatively small list of executed works is, therefore, not by any means to be attributed solely to lack of opportunity. Among the buildings in which he best satisfied his own intentions were:—The Scottish Widows Office, Albert-square, some business premises at No. 20, Cross-street (recently altered), the School of Art, and the Racquet Courts, all in Manchester. His two best country houses were Whitton, in Herefordshire, for Mr. Richard Green, and Feldemore, in Surrey, which he built *à deux reprises* for his brother-in-law, Mr. Edwin Waterhouse. His best church, St. Chrysostom's, Victoria Park, Manchester, was unfortunately destroyed by fire. Other of his buildings were a house at Mayfield, in Staffordshire, for Mr. Joseph Simpson; the Dalton Hall, Manchester, for the Society of Friends; Schools at Knutsford and Broadbottom, and various small works at Ambleside and Alderley. Many of these buildings show that he was capable of carrying out work on an important scale; the Scottish Widows Building in particular is as good a proof as one could have that there was real art and real sense in that mediæval revival which is to-day so readily despised. It is virile and fresh."

PATENTS.

APPLICATIONS PUBLISHED.*

19,853 of 1911.—Emile Klée: Hollow reinforced concrete floors, ceilings, and the like.

20,202 of 1911.—James Ward Moseley: Wall construction for houses and other buildings.

20,535 of 1911.—August Weiffenbach and Michael Joseph Farrell: Composition for plaster and the like.

20,630 of 1911.—Francis Skilbech: Plastic composition.

21,200 of 1911.—Francis Pavey Le Bailly: Mode of glazing roofs, windows, and the like.

21,550 of 1911.—Frank Herbert Shorland: Fireplaces.

21,866 of 1911.—Isaac Henry Storey, William Edward McCalla, and Arthur Griffiths: Facing plates for attaching to the surface of walls and the like.

24,764 of 1911.—Edgar William Brown and Charles James Watts: Combined screen and stove or radiator.

27,232 of 1911.—Daniel Murphy: Bolts for doors, gates, and the like.

27,754 of 1911.—John Shanks: Supply connexions for cisterns of an installation of water-closets and the like.

27,858 of 1911.—Giuseppe Andina and John William Bottomley: Kilns for burning or firing bricks, tiles, or other earthenware, fireclay, or like goods.

*All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

909 of 1912.—Joseph Schwend: Chimney-tops.

1,711 of 1912.—Ellen Chandler and Emily Corin: Sinks.

2,251 of 1912.—Thomas Boyd: Attachments for glazing bars.

8,452 of 1912.—Thomas Joseph Barrett: Road compositions.

13,479 of 1912.—John Caldwell: Door-locks.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

September 14.—By DENYER & COLLINS.

Whitstable, Kent.—Court Lees Farm, 223 a. 1 r. 5 p., f.	£3,800

September 19.—By FERRIS & PUCKRIDGE.

Seend, Wilts.—Lower Foxhangers Farm, 140 a. 1 r. 12 p., f.	4,200

By GEO. TROLLOPE & SONS.

Finchamstead, Berks.—Two villas, eight cottages, and 24 a. 2 r. 13 p., f.	3,665

September 20.—By GILLART & SONS.

Llanaber, Merioneth.—Tyglanrafon Farm, 72 a. 0 r. 38 p., f.	330

September 24.—By BANKS & SON.

Sellindge, Kent.—Little Grany and Court Lodge Farms, 146 acres, f.	2,905
The Rookery and 26 acres, f.	750
Arable and pasture, 18 a. 2 r. 30 p., f.	810
Mill House, Forge House, and Maison Dieu House, f.	590
Rock cottage and 7 a. 1 r. 23 p., f.	510
Church house and cottage, f.	350
Rock cottages and 1¼ acre, f.	325
Old school cottages and plot of land, f.	235

September 26.—By GEORGE HOSE.

Bishops Cleave, Glos.—Morris's Farm., etc., 44 a. 2 r. 9 p., f.	2,400

By WALTER LUDLOW & BRISCOE.

Hartlebury, Worcs.—Waresley House Estate, 119 a. 3 r. 34 p., f.	9,840
The Lion p.h. and 1 r. 11 p., f.	800

September 27.—By GEORGE LOVEITT & SONS.

Corley, Warwick.—Marshlands Farm, 137 acres, f.	6,075

By HARRY BALL.

Bedford.—120, Hurst-gr., f.	320
35 to 49 (odd), Priory-st., f.	895
11, 13, 15, 17, 27, 29, and 31, Greenhill-st., f.	550
50 to 56 (even), Argyll-st., f.	625
44 and 46, Spring-rd., f.	430

September 30.—By VENTOM, BULL, & COOPER.

West Ham.—202, Romford-rd., u.t. 40 yrs., g.r. 13l., e.r. 40l.	150

October 1.—By FRED VARLEY & SON.

Finsbury Park.—20, Sommerfield-rd., u.t. 54 yrs., g.r. 6l. 6s., e.r. 42l.	300

By ALFRED J. BURROWS WITH TUCKETT & SON.

Ashford, Kent.—Pasture, 20 a. 0 r. 27 p., f.	2,000

By KEMSLEY.

Mickfield, Suffolk.—Greenwoods Farm, 155 acres, f.	2,000

October 2.—By DOUGLAS YOUNG & Co.

Hornsey.—7 and 9, Harvey-rd., u.t. 80 yrs., g.r. 13l., y.r. 64l.	420
Finchley.—55 and 57, Durham-rd., u.t. 75 yrs., g.r. 13l., y.r. 75l.	520
Brixton.—8, Loughborough-park., u.t. 10½ yrs., g.r. 5l., y.r. 36l.	110

By BAXTER, PAYNE, & LEPPER.

Sidcup.—1a, Days-la. (s.), f., y.r. 15l.	180
Leckenham.—Westgate-rd., Parkhurst and 1 acre., u.t. 52 yrs., g.r. 2l., p.	1,000

By NEWBON & SHEPHARDS.

Battersea.—Bennerley-rd., f.g. rents 63l., reversion in 56 yrs.	1,260
Acton.—Bollo-la., f.g.r. 8l. 8s., reversion in 85 yrs.	170
Barking.—Orchard-av., f.g. rents 35l., reversion in 65 yrs.	650
Kentish Town.—Gaisford-st., i.g.r. 50l., u.t. 36 yrs., g.r. 10s.	440
Adelaide-rd., i.g. rents 38l., u.t. 28½ yrs., g.r. 18l.	215
Battersea.—York-rd., i.g. rents 14l. 10s., u.t. 36½ yrs., g.r. 10s.	165
Kilburn.—Alpha-pl. North, i.g. rents 64l., u.t. 46 yrs., g.r. 4l.	700

By STIMSON & SONS.

Dulwich.—14 and 16, Fenwick-rd., u.t. 54 yrs., g.r. 10l., y. and e.r. 62l.	430
Old Kent-rd.—Nos. 263, 271, and 275a (s.), u.t. 36 yrs., g.r. 78l., y.r. 260l.	1,300
62 and 64, Marcia-rd., u.t. 38 yrs., g.r. 14l., w.r. 91l. 8s. 8d.	345
Bermondsey.—150 and 152, Southwark Park-rd (s.), u.t. 36½ yrs., g.r. 14l., y.r. 110l.	780
158 and 160, Southwark Park-rd. (s.), u.t. 27 yrs., g.r. 14l., y.r. 110l.	880
166, 174, and 176, Southwark Park-rd. (s.), u.t. 28 yrs., g.r. 21l., y.r. 165l.	1,230
Rotherhithe.—75 and 77, Plough-rd., u.t. 41 yrs., g.r. 7l. 10s., w.r. 63l. 2s.	290
Old Kent-rd.—3, 4, and 5, Trimby-st., u.t. 57½ yrs., g.r. 9l., w.r. 76l. 1s.	290

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointment, xix.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

Competitions.

OCTOBER 14.—**Balham.**—SWIMMING BATH.—The Wandsworth B.C. invite designs for a Public Swimming Bath. See advertisement in issue of August 16 for further particulars.

OCTOBER 29.—**Glasgow.**—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnet, assessor. Deposit of 1*l.* 1s.

OCTOBER 31.—**Huddersfield.**—TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums 100gs., 50gs., and 25gs. Deposit of 2*l.* 2s. See advertisement in issue of August 2 for further particulars.

OCTOBER 31. — **Llandudno.** — LANDSCAPE GARDENING.—The Llandudno U.D.C. invite designs for laying-out land adjoining the Happy Valley, about 20 acres in extent. See advertisement in issue of September 6 for further particulars.

NOVEMBER 1.—**Ottawa.**—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).

NOVEMBER 29.—**Langside, Glasgow.**—BRANCH LIBRARY.—Assessor, Mr. Alex. N. Paterson, A.R.S.A. Premiums, 50*l.*, 30*l.*, and 25*l.* Particulars from the Town Clerk, City-chambers, Glasgow.

DECEMBER 1.—**Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see p. 173, August 9, and p. 350, September 27).

DECEMBER 2.—**Carlisle.**—SCHOOL BUILDINGS, ETC.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.

MARCH 1, 1913. — **Rangoon.** — MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300*l.*, 200*l.*, and 100*l.* respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 635.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50*l.*, 30*l.*, and 20*l.*

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

OCTOBER 11.—**Nairn.**—GROYNE.—For constructing a timber groyne, 150 ft. long, on the foreshore, about 75 yds. west of the harbour. Plan and specification from Mr. D. Munro, Burgh Surveyor, Nairn.

OCTOBER 12.—**Bradford.**—LIBRARY.—Erection of branch library, Great Horton. Drawings and general conditions of contract seen, and quantities and form of tender from the City Architect, Town Hall, Bradford.

OCTOBER 14. — **Dundalk.** — SHOP.—The Great Northern Railway Company (Ireland) invite tenders for the erection of an electric and general millwright shop at Dundalk. Drawing and specification at the Engineer's Offices at Dublin and Belfast, and forms of tender, on deposit of 1*l.* 1s., from Mr. T. Morrison, Secretary, Secretary's Office, Amiens-street Terminus, Dublin.

OCTOBER 14.—**Eccles.**—PAVILION.—For taking down and removing the existing bowlhouse, pavilion, etc., at the Eccles recreation ground, and the construction of a new pavilion, bowlhouse, shelter, store, and alterations to the girls' playground, also for the construction of an additional bowling green at the same ground. Plans at the Borough Surveyor's Office, Town Hall, Eccles. Quantities on deposit of 1*l.*

OCTOBER 15.—**Rawdon.**—SCHOOL.—For erection of proposed new school at Rawdon for the Society of Friends. Mr. H. Chippindale, architect, Guiseley.

OCTOBER 15.—**Stanley.**—SCHOOL.—For remodelling and erection of new infants' school at Stanley, near Crook. Plans, specification, and general conditions of contract seen, and quantities at the office of Mr. W. Rushworth, Shire Hall, Durham.

OCTOBER 15.—**Stockport.**—SHELTER, ETC.—For erection of shelter, tool-house, and conveniences at Grimesbottom recreation ground. Plans, sections, and general condition seen, and specification, with form of tender, from Mr. J. Atkinson, A.M.Inst.C.E., Borough Surveyor, Town Hall, Stockport.

OCTOBER 16.—**East Langton.**—COTTAGES.—The Midland Railway Company invite tenders for the erection of two cottages at East Langton. Plans and specifications seen, quantities and particulars at the Engineer's Office, Derby Station.

OCTOBER 16.—**Halifax.**—EXTENSION.—For extension of offices and new moulding shed, for Messrs. J. Sagar & Co., Ltd., Water-lane. Plans seen, and quantities from Messrs. Jackson & Fox, Rawson-street, Halifax.

OCTOBER 16.—**Milnsbridge.**—WORKSHOP, ETC.—Erection of workshop, etc. Plans seen, and quantities from Messrs. Lunn & Kaye, architects and surveyors, Milnsbridge.

OCTOBER 18.—**Belfast.**—MACHINERY.—Erection of refrigerating machinery for chill-rooms at the new Public Abattoir. Drawings, specification, and particulars from the City Surveyor. Deposit of 1*l.* 1s.

OCTOBER 18.—**Brecon.**—SCHOOL.—For proposed mixed and infants' school and cookery kitchen at Caehopkin, Abercrave. Mr. C. W. Best, M.Inst.C.E., Surveyor to the Breconshire Education Committee, County Hall, Brecon.

OCTOBER 18.—**Dinnington.**—ADDITIONS.—For additions to Dinnington Council School. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 1*l.*

OCTOBER 18.—**Stainton.**—SCHOOL.—For erection of a new school. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 1*l.*

OCTOBER 18.—**Wheatley.**—SCHOOL.—For erection of Beckett-road Council School. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 1*l.*

OCTOBER 19. — **Egremont.** — RESIDENCE.—For erection of a new residence at Bookwell, Egremont. Plans and specifications with Mr. N. Kitchen, A.M.I.Mun.E., A.R.S.I., etc., architect, Woodend House, Bigrigg.

OCTOBER 19. — **Hickling.** — RESTORATION.—For the restoration of Hickling Church. Specifications, etc., from Mr. A. Howell, F.R.I.B.A., 32, Clitherce-road, Stockwell, S.W.

OCTOBER 19.—**Middlesbrough.**—HOTEL, ETC.—For erecting business premises and hotel, 29 and 31, Corporation-road, and 65, Albert-road, Middlesbrough, for Messrs. Freeman, Hardy, & Willis, Ltd. Messrs. Moore & Archibald, architects, Prudential-chambers, Albert-road, Middlesbrough.

OCTOBER 21. — **Abergavenny.**—CENTRE.—Erection of a domestic arts centre at Abergavenny. Plans and specification seen, and quantities from Mr. John Bain, F.R.I.B.A., County Council Offices, Newport, on deposit of 1*l.* 1s.

★ OCTOBER 21. — **Banbury.** — COTTAGES.—The Banbury Corporation invite tenders for forty cottages on a site off Paradise-road. See advertisement in this issue for further particulars.

OCTOBER 21.—**Edinburgh.**—HOUSE.—For the erection of a janitor's house at Moray House Training College. Plans with the architect, Mr. A. K. Robertson, 29, Hanover-street, Edinburgh.

OCTOBER 21.—**Huddersfield.**—WAREHOUSE, ETC.—For two-story warehouse and offices, St. Andrew's-road, Huddersfield. Plans seen, and quantities from Messrs. Abbey & Hanson, 11, Cloth Hall-street, Huddersfield.

OCTOBER 21.—**Lostwithiel.**—HOUSE.—For erection of a dwelling-house at Penquite, Lostwithiel. Plan and specification with Mr. W. Littleton, Sweet's House, Bodmin.

OCTOBER 21.—**Ramsden Bellhouse.**—COTTAGES.—Erection of three pairs of semi-detached cottages adjoining Chapel-cottages, Ramsden Bellhouse. Mr. Hugo R. Bird, architect, St. Thomas's-gate, Brentwood. Plans, specification, and form of tender on deposit of 1*l.* 1s.

OCTOBER 21.—**St. Helier.**—ARSENAL.—For the construction of an arsenal for the parish of St. Helier in Rouge Bouillon. Plans, conditions, and specifications at the States Engineer's Office, Royal-square.

★ OCTOBER 21.—**Windsor.**—NEW HOSPITAL, ETC.—The Secretary of State for War invites tenders for erection of a new hospital, etc., and other works in connexion therewith. See advertisement in this issue for further particulars.

OCTOBER 22.—**Great Yarmouth.**—ALTERATIONS.—For alterations to Great Yarmouth Post-Office. Drawings, specification, and a copy of the conditions and form of contract at Great Yarmouth Post-Office. Quantities and forms of tender from H.M. Office of Works, etc., Storey's-gate, S.W. Deposit of 1*l.* 1s.

★ OCTOBER 22. — **Willesden.** — UNDERGROUND CONVENIENCE.—The Willesden D.C. invite tenders for a public underground convenience at South Kilburn, N.W. See advertisement in this issue for further particulars.

★ OCTOBER 23. — **Bradford.** — EXTENSION OF COUNTY COURT. — The Commissioners of H.M. Works and Public Buildings invite tenders for extension of County Court. See advertisement in this issue for further particulars.

★ OCTOBER 23 — **Homerton.** — COVERED WAYS, ETC.—The Guardians of the Hackney Union invite tenders for iron and glass covered ways, glazed roofs over balconies, and screens at Infirmary, High-street, Homerton, N.E. See advertisement in this issue for further particulars.

★ OCTOBER 24. — **Hampton Court.**—EXTENSION OF CLOAKROOM. — The Commissioners of H.M. Works and Public Buildings invite tenders for women's cloakroom at Hampton Court Palace. See advertisement in this issue for further particulars.

★ OCTOBER 25. — **London, N.W.** — NEW POST-OFFICE.—The Commissioners of H.M. Works and Public Buildings invite tenders for erection of new post-office, North Western District. See advertisement in this issue for further particulars.

OCTOBER 26. — **Monkstown.** — ADDITIONS.—For additions to Rafleen House, near Monkstown, Co. Cork. Plans and specification by Messrs. W. H. Hill & Son, architects, 28, South-mall, Cork.

OCTOBER 29. — **Yarm-on-Tees.**—SCHOOL.—For erection of new school on a site adjoining the present Grammar School, Yarm-on-Tees. Mr. E. G. Fletcher, architect, Prince Regent-street, Stockton-on-Tees.

OCTOBER 30. — **Chingford.**—SCHOOL.—Erection of a new public elementary school at South Chingford. Two guineas deposit for quantities. Plans, specification, and form of contract with the County Architect, Duke-street, Chelmsford

★ OCTOBER 30.—**Southampton.**—CELLS.—Tenders are invited for alterations to cells, the provision of water-closets, and lavatory. See advertisement in this issue for further particulars.

OCTOBER 31.—**Newcastle.**—QUAY.—Construction and maintenance of a reinforced concrete quay at the London Wharf. General conditions, specification, quantities, forms of tender, and drawings, on deposit of 3*l.* 3s., from the City Engineer, Town Hall, Newcastle-upon-Tyne.

★ NOVEMBER 5.—**Walthamstow.**—ADDITIONS TO SCHOOLS. — The Walthamstow Education Committee invite tenders for additions and alterations to the Joseph Barrett Schools. See advertisement in this issue for further particulars.

NOVEMBER 11.—**Ipswich.**—SCHOOL.—For the erection of the St. Helen's Council School. The plans and specifications seen, and quantities, on deposit of 1*l.* 1s., from the architect, Mr. Raymond C. Wrinch, 16, Museum-street, Ipswich.

NOVEMBER 15. — **Lerwick.** — EXTENSION.—For the construction of works in the extension of Lerwick Harbour, in the County of Zetland. Plans and specifications with Mr. James Barron, M.Inst.C.E., Central-chambers, 214, Union-street, Aberdeen. Quantities on deposit of 1*l.*

NO DATE.—**Burnley.**—HOUSES.—For erection of a pair of small houses in Todmorden-road, Burnley, for Messrs. Chadwick & Brotherton. Quantities from Mr. G. Parkinson, architect and surveyor, Mercantile-chambers, Burnley.

NO DATE. — **Freshwater.** — ADDITIONS.—For additions and alterations to St. Andrew's Church, Norton, Freshwater, I.W. Quantities from Mr. J. W. Newman, Station-road, Freshwater, I.W.

NO DATE.—**Guisborough.**—HOMES.—Erection and completion of children's new cottage homes. Quantities and form of tender from the architects, Messrs. J. J. Taylor & Minor, A.R.I.B.A., Post-office-chambers, Darlington. Deposit of 1*l.* 1s.

NO DATE.—**Halifax.**—CHURCH.—For the erection of the easterly half of St. Mark's Church, Siddal. Messrs. Joseph Walsh, F.S.I., and Graham Nicholas, F.R.I.B.A., architects, 10, Harrison-road, Halifax.

NO DATE.—**Heaton.**—EXTENSION.—Extension of the cemetery at North Heaton. Quantities from the architect, Mr. J. J. Hill, M.S.A., Goldsmiths' Hall, Pilgrim-street, Newcastle-upon-Tyne. Deposit of 1*l.* 1s.

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NO DATE.—**Knottingley.**—PICTURE HOUSE.—Erection of a picture house at Knottingley, Yorks. Messrs. Lunn & Kaye, architects and surveyors, 14, John William-street, Huddersfield.

NO DATE.—**Middlesbrough.**—ADDITIONS, ETC.—For alterations and additions to Nos. 87, 89, and 91, Albert-road, Middlesbrough. Particulars from Messrs. Moore & Archibald, architects, Prudential-chambers, Albert-road, Middlesbrough.

NO DATE.—**Middlesbrough.**—ALTERATIONS.—For alterations to the "Dove" Café, No. 50, High-street, Redcar. Messrs. Moore & Archibald, architects, Prudential-chambers, Albert-road, Middlesbrough.

ENGINEERING, IRON, AND STEEL.

OCTOBER 22.—**Crossness.**—PUMPS, ETC.—For the erection at the southern outfall works, Crossness, near Abbey Wood, Kent, of four 38-in. centrifugal pumps, together with four 38-in. hydraulically-worked sluice valves, and a 10-in. centrifugal drainage pump and steam-engine for the London County Council. Specifications, form of tender, drawings, etc., from the Chief Engineer of the Council, Sir Maurice Fitzmaurice, C.M.G., County Hall, Spring-gardens, S.W. Deposit of 2*l*.

OCTOBER 22. — **Gillingham.**—PLANT.—For the supply and erection at Electric Generating Station of one 500-h.p. Diesel engine and alternator. Specifications and particulars from the Borough Electrical Engineer, Generating Station, Gillingham-road, Gillingham, Kent.

OCTOBER 22. — **Portsmouth.**—INSTALLATION.—For electrical installation and supply of stoves, ranges, chimneypieces, hearths, etc., in connexion with the Workhouse infirmary extension. Forms of tender, with specification and particulars, from the architect, Mr. G. E. Smith, 145, Victoria-road North, Southsea.

OCTOBER 23. — **Perth.** — PILING.—For piling about 280 yds. of the river bank at Shore-road, opposite South Inch, with larch piles, and pitching the slopes of banks with stones. Plans seen, and specifications and quantities from Mr. R. M'Killop, Burgh Surveyor, 16, Tay-street, Perth.

FURNITURE, PAINTING, MATERIALS, etc.

OCTOBER 15. — **Watford.**—PAINTING.—For the external repainting of Holywell House and other buildings. Specification at Holywell House.

OCTOBER 17. — **Manchester.**—PAINTING, ETC.—For painting and repairs at Alexandra Park. Specification from the City Architect, Town Hall. Deposit of 10s. 6d.

OCTOBER 26. — **Clitheroe.**—PAINTING, ETC.—For painting and decorating the Clitheroe Congregational church and school. Specifications may be obtained from Mr. G. Steer, 38, Salthill-road, from 6 to 8 p.m.

* NOVEMBER 4. — **Ware.** — DEMOLITION.—The Ware Gas Company invite tenders for demolition of malting premises in Star-street. See advertisement in this issue for further particulars.

NO DATE.—**Batley.**—PAINTING.—For outside painting of Wensleydale Mills. Particulars from Mr. J. Thompson, Wensleydale Mills, Batley.

ROADS, SANITARY AND WATER WORKS.

OCTOBER 14. — **Bury.**—ROAD WORKS.—For excavating and ballasting, curbing and flagging, and paving in connexion with private street works. Forms of tender and specifications at the office of the Borough Engineer, Bank-street, Bury. Deposit of 1*l*.

OCTOBER 14. — **Swanscombe.**—STREETS.—For the making-up of private streets. Plans and specifications with the Surveyor, Mr. John Hookins, "Gartly," Dartford-road, Dartford.

OCTOBER 14.—**Swansea.**—EXTENSIONS.—For the extensions of watermains. Plans and specifications and conditions of contract from Mr. T. Trevor Williams, Surveyor to the Council, Alexandra-road, Swansea.

OCTOBER 15.—**Isleworth.**—SPALLS.—For supply of 1,500 tons of best hard Guernsey granite spalls. Forms of tender from Mr. W. Stephens, Clerk, Union Offices, Isleworth.

OCTOBER 15. — **Wembley.**—STREET.—For street widening and improvement at the corner of the Harrow and Ealing roads, Wembley. Plan and specification seen, and form of tender from Mr. Cecil R. W. Chapman, Engineer and Surveyor to the Council, Public Offices, High-road, Wembley.

OCTOBER 16. — **Clacton.** — WIDENING. — For widening and making-up Close-lane. Specification and form of tender from Mr. D. J. Bowe, Surveyor, Town Hall, Clacton-on-Sea.

OCTOBER 16. — **Hanley.** — STREETS.—For the making-up of eleven private streets. Plans and specifications at the Borough Surveyor's Office, Town Hall, Stoke-on-Trent. Deposit of 1*l*. 1s. for quantities.

OCTOBER 17.—**Blackburn.**—SETTS.—For supply of 1,000 tons of 6 in. by 3 in. to 3½ in. granite setts. Tenders to Mr. W. Stubbs, A.M.Inst.C.E., Borough Engineer, Municipal Offices, Blackburn.

OCTOBER 17.—**Chelmsford.**—STREET.—For the execution of street improvement works in New-street and Rectory-lane. Forms of tender, particulars, plans, and specifications at the Borough Engineer's Office, 16, London-road.

OCTOBER 18.—**Manchester.**—SANITARY WORKS.—For sanitary alterations at 1 to 25, Duke-street; 54, George-street; and 51, River-street, Hulme; 65 and 75, Leaf-street, Hulme; 1 to 5, Norman-street; 50 to 68, Eliza Ann-street; and 435 to 451, Rochdale-road. Forms of tender, general conditions, and specifications may be obtained, and plans with the Manager of the Drainage Department.

OCTOBER 19.—**Briton Ferry.**—GRANITE.—For supply of broken granite or basalt. Tender form and specification from Mr H. A. Clarke, Engineer and Surveyor, Briton Ferry.

OCTOBER 22.—**Bootle.**—WORKS.—For sewering, paving, etc., in Linacre-lane. Plans seen, and specifications and quantities from the Borough Engineer.

OCTOBER 24.—**Sandbach.**—SEWAGE.—For the construction of sewage purification works at Elworth, near Sandbach. Plans and specifications seen, and quantities from Messrs. A. Price & Son, surveyors, Sandbach. Deposit of 1*l*. 1s.

OCTOBER 26.—**Bexhill.**—SEWAGE.—For the construction of storm-water overflow sewers, enlargement of brick culvert, and extension of storage tanks at the sewer outfall, together with manholes and other works. Plans seen, and specifications, quantities, and forms of tender from Mr. G. Ball, A.M.Inst.C.E., Borough Surveyor, Town Hall, on deposit of 5*l*.

OCTOBER 31.—**Romford.**—GRANITE.—For supply of 1,800 tons of best blue Guernsey granite, hand-broken to 1½ in. cube. Forms of tender from Mr. J. Turvey, Surveyor, Council Offices, Romford.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*COMMERCIAL MOTOR CHASSIS—Mill-lane Depot of L.G.O.C., Ltd.	Stuart A. Curzon	Oct. 14
*PLT., ETC., MOTOR MAIN. CO., LTD., & STK. FRNSHG. IRNMGR.—23, Moorfields, E.C.	Fryett, White, & Co.	Oct. 17
*FREEHOLD SITES, SOUTHWARK—At the Mart	Field & Sons	Oct. 22
*NETLEY HOUSE ESTATE, SURREY—At the Mart	Driver, Jonas, & Co.	Oct. 22
*FREEHOLD SITE, KING'S COLLEGE HOSPITAL (Sale by Tender)	Weatherall & Green	Dec. 18

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and *not* to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.	£ s. d.
Best Stocks	1 14 0
Picked Stocks for Facings	2 10 0

BRICKS, &c. (*Continued*).

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
Flettons	1 13 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glzd.Str'tch'rs	12 7 6	Double Headers	14 17 6
Headers	11 17 6	One Side and two Ends	18 17 6
Quoins, Bullnose, and 4½ in. Flats	15 17 6	Two Sides and one End	19 17 6
D'ble Stretchers	17 17 6	Splays & Squints	17 7 6

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	6 9	per yard, delivered.
Thames Ballast	5 6	" "
Best Portland Cement	36 0	per ton, "
Best Ground Blue Lias Lime	19 0	" "

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 13s. 6d. per yard delivered
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly dpt.

STONE.

Per Ft. Cube.

	s. d.
BATH STONE—delivered on road waggons, Paddington Depôt	1 7½
Do. do. delivered on road waggons, Nine Elms Depôt	1 9
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 3
White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks	1 10	Closeburn Red Freestone	2 0
Beer in blocks	1 6	Red Mansfield Freestone	2 4
Greenshill in blocks	1 10	Talacre & Gwespyr Stone	2 4
Darley Dale in blocks	2 4		
Red Corsehill in blocks	2 3		

STONE (*Continued*).

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.

	s. d.
Scappled random blocks	2 10

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3
6 in. rubbed two sides ditto, ditto	2 6
3 in. sawn two sides slabs (random sizes)	0 11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7
1½ in. to 2 in. ditto, ditto	0 6

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.

Scappled random blocks	3 0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto	3 0
3 in. sawn two sides slabs (random sizes)	1 2
2 in. self-faced random flags	0 5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£ s. d.	In. In.	£ s. d.
20×10 best blue Bangor	13 2 6	20×10 best Eur'ka unfading green	15 17 6
20×12 ditto	13 17 6	20×12 ditto	18 7 6
20×10 1st quality ditto	13 0 0	18×10 ditto	13 5 0
20×12 ditto	13 15 0	16×8 ditto	10 5 0
16×8 ditto	7 5 0	20×10 permanent green	11 12 6
22×10 best blue Portmadoc	12 12 6	18×10 ditto	9 12 6
16×8 ditto	6 12 6	16×8 ditto	6 12 6

TILES.

At Railway Depôt.

	s. d.
Best plain red roofing (per 1000)	42 0
Hip and Valley (per doz.)	3 7
Best Broseley (per 1000)	50 0
Do. Ornamental (per 1000)	52 6
Hip and Valley (per doz.)	4 0

TILES (*Continued*).

At Railway Depot.

	s.	d.		s.	d.
Best Ruabon red, brown, or brindled (Edw'ds)(per1000)	57	6	Best "Hartshill" brand,Ornamental (per 1000)	47	6
Do. Ornamental(per 1000)	60	0	Hip (per doz.)	4	0
Hip (per doz.)	4	0	Valley(per doz.)	3	6
Valley(per doz.)	3	0	Staffords. (Hanley) Reds or Brindled (per 1000)	42	6
Best "Hartshill" brand, plain sand-faced (per 1000)	45	0	Hand-made sand-faced (per 1000)	45	0
Do. pressed (per 1000)	42	6	Hip (per doz.)	4	0
			Valley(per doz.)	3	6

WOOD.

Building Wood.	At per standard. £	s.	d.		£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14	0	0	...	15	10	0
Deals: best 3 by 9	13	10	0	...	14	10	0
Battens: best 2½ in. by 7 in. and 8in., and 3 in. by 7 in. and 8 in.	11	10	0	...	12	10	0
Battens: best 2½ by 6 and 3 by 6	0	10	0	...	less than 7 in. and 8 in.		
Deals: seconds	1	0	0	less thn best.			
Battens: seconds	0	10	0	"		"	
2 in. by in. and 2 in. by 6 in.	9	10	0	...	10	10	0
2 in. by 4½ in. and 2 in. by 5 in.	9	0	0	...	10	0	0
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.	0	10	0	more than battens.			
¼ in.	1	0	0	"			
Fir timber: best middling Danzig or Memel(average specification)	At per load of 50 ft. 5	0	0	...	5	10	0
Seconds	4	10	0	...	5	0	0
Small timber (8 in. to 10 in.)	3	17	6	...	4	0	0
Small timber (6 in. to 8 in.)	3	5	0	...	3	10	0
Swedish balks	2	12	6	...	3	0	0
Pitch-pine timber (30 ft. average)	5	5	0	...	6	0	0

Joiners' Wood.	At per standard. £	s.	d.		£	s.	d.
White Sea: first yellow deals, 3 in. by 11 in.	24	10	0	...	25	10	0
3 in. by 9 in.	22	10	0	...	23	10	0
Battens,2½ in.and 3 in. by 7 in.	17	0	0	...	18	0	0
Second yellow deals,3in. by11in.	19	0	0	...	20	0	0
" " 3 in. by 9 in.	18	0	0	...	19	10	0
Battens,2½ in. and 3in. by 7 in.	14	0	0	...	15	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	14	0	0	...	15	0	0
Battens,2½ in.and 3 in. by 7 in.	11	10	0	...	12	10	0
Petersburg: first yellow deals, 3 in. by 11 in.	21	10	0	...	22	10	0
Do. 3 in. by 9 in.	18	10	0	...	19	10	0
Battens	14	0	0	...	15	0	0
Second yellow deals, 3 in. by 11 in	16	10	0	...	17	10	0
Do. 3 in. by 9 in.	15	0	0	...	16	0	0
Battens	11	10	0	...	12	10	0
Third yellow deals, 3in. by 11 in.	13	10	0	...	14	10	0
Do. 3 in. by 9 in.	13	0	0	...	14	0	0
Battens	10	10	0	...	11	0	0
White Sea and Petersburg— First white deals, 3 in. by 11 in.	15	0	0	...	16	0	0
" " 3 in. by 9 in.	14	0	0	...	14	10	0
Battens	11	10	0	...	12	10	0
Second white deals, 3in. by 11in.	14	0	0	...	15	0	0
" " 3 in. by 9 in.	13	0	0	...	14	0	0
Battens	10	10	0	...	11	0	0
Pitch-pine: deals	19	0	0	...	21	0	0
Under 2 in. thick extra	0	10	0	...	1	0	0
Yellow Pine—First, regular sizes	48	0	0	upwards.			
Oddments	32	0	0	"			
Seconds, regular sizes	33	0	0	"			
Oddments	28	0	0	"			
Kauri Pine—Planks per ft. cube.	0	4	6	...	0	6	0

WOOD (*Continued*).

Joiners' Wood (*Continued*)—	£	s.	d.		£	s.	d.
Danzig and Stettin Oak Logs— Large, per ft. cube	0	3	0	...	0	3	9
Small " "	0	2	6	...	0	2	6
Wainscot Oak Logs, per ft. cube	0	6	6	...	0	8	0
Dry Wainscot Oak, per ft. sup. as inch	0	0	10	...	0	1	0
½ in. do. do.	0	0	8½	...		—	
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch..	0	0	10	...	0	1	1
Selected, Figury, per ft. super. as inch	0	1	6	...	0	2	6
Dry Walnut, American, per ft. super. as inch	0	0	10	...	0	1	0
Teak, per load	18	0	0	...	22	0	0
American Whitewood planks, per ft. cube	0	5	0	...	0	6	0
Prepared Flooring, etc.—	Per square.						
1 in. by 7 in. yellow, planed and shot	0	13	6	...	0	17	0
1 in. by 7 in. yellow, planed and matched	0	14	0	...	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	16	0	...	1	0	0
1 in. by 7 in. white, planed and shot	0	12	0	...	0	14	6
1 in. by 7 in. white, planed and matched	0	12	6	...	0	15	0
1¼ in. by 7 in. white, planed and matched	0	15	0	...	0	16	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0	11	0	...	0	13	6
1 in. by 7 in. " "	0	14	0	...	0	18	6
¾ in. by 7 in. white " "	0	10	0	...	0	11	0
1 in. by 7 in. " "	0	12	9	...	0	15	0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	8	10	0	...	9	10	0
Compound Girders, ordinary sections	10	0	0	...	11	0	0
Steel Compound Stanchions	11	10	0	...	12	10	0
Angles, Tees, and Channels, ordinary sections	10	0	0	...	11	0	0
Flitch Plates	10	0	0	...	11	0	0
Cast Iron Columns & Stanchions, including ordinary patterns	8	0	0	...	8	10	0

METALS.

Iron—	Per ton, in London. £	s.	d.		£	s.	d.
Common Bars	9	0	0	...	9	10	0
Staffordshire Crown Bars, good merchant quality	9	5	0	...	9	15	0
Staffordshire "Marked Bars"	11	0	0	...		—	
Mild Steel Bars	9	5	0	...	9	15	0
Hoop Iron, basis price	10	0	0	...		—	
" " Galvanised	17	10	0	...		—	

(*And upwards, according to size and gauge.)

Sheet Iron Black—							
Ordinary sizes to 20 g.	10	5	0	...		—	
" " 24 g.	11	5	0	...		—	
" " 26 g.	12	15	0	...		—	
Sheet Iron, Galvanised, flat, ordinary quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15	10	0	...		—	
Ordinary sizes to 22 g. and 24 g.	16	0	0	...		—	
" " 26 g.	17	0	0	...		—	
Sheet Iron, Galvanised, flat, best quality— Ordinary sizes to 20 g.	18	10	0	...		—	
" " 22 g. and 24 g.	19	0	0	...		—	
" " 26 g.	20	10	0	...		—	
Galvanised Corrugated Sheets— Ordinary sizes, 6ft. to 8ft. 20 g.	15	0	0	...		—	
" " 22 g. and 24 g.	15	5	0	...		—	
" " 26 g.	16	15	0	...		—	

METALS (*Continued*).

Iron (*Continued*)—	Per ton, in London. £	s.	d.		£	s.	d.
Best Soft Steel Sheets,5 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12	10	0	...		—	
Best Soft Steel Sheets, 2 g. & 24 g.	13	10	0	...		—	
" " " 26 g.	15	10	0	...		—	
Cut Nails, 3 in. to 6 in.	11	0	0	...	11	10	0

(Under 3 in., usual trade extras.)

LEAD, &c.

	£	s.	d.		
Lead—Sheet, English, 4lb. and up	25	5	0	...	—
Pipe in coils	25	15	0	...	—
Soil pipe	28	15	0	...	—
Compo pipe	28	15	0	...	—
Zinc—Sheet—	In casks of 10 cwt.				
Vielle Montagne	33	15	0	...	—
Silesian	33	10	0	...	—
Zinc, in bundles, 1s. per cwt. extra.					
Copper—					
Strong Sheet per lb.	0	1	1	...	—
Thin " "	0	1	2	...	—
Copper nails "	0	1	0	...	—
Copper wire "	0	1	0	...	—
Brass—					
Strong Sheet "	0	1	0	...	—
Thin "	0	1	1	...	—
Tin—English Ingots "	0	2	3	...	—
Solder—Plumbers' "	0	0	10½	...	—
Tinmen's "	0	1	1½	...	—
Blowpipe "	0	1	3½	...	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	2½d.	26 oz. fourths	d.
" fourths	2d.	32 oz. thirds	5½d.
21 oz. thirds	2¾d.	" fourths	4¾d.
" fourths	3d.	Fluted Sheet, 15 oz.	3d.
26 oz. thirds	4½d.	" 21 oz.	4d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

⅛ Rolled plate	2½d.	Figured Rolled, Oxford Rolled, Oceanic,Arctic,Muffled, and Rolled Cathedral, white	3½d.
⅛ Rough rolled and rough cast plate..	2¼d.	Ditto, tinted	5d.
¼ Rough rolled and rough cast plate..	3d.		

* Not less than two crates.

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	11
" " " in barrels	"	0	3	0
" " " in drums	"	0	3	1
Boiled " in barrels	"	0	3	1
" " " in drums	"	0	3	4
Turpentine in barrels	"	0	2	7
" in drums	"	0	2	9
Genuine Ground English White Lead, per ton		32	0	0
Red Lead, Dry	"	28	0	0
Best Linseed Oil Putty	per cwt.	0	10	6
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon. £	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	0
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	0
Extra Pale French Oil	1	1	0

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White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 9
French and Brush Polish	0 10 6

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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 6 p.m. *on Wednesday*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* *Denotes accepted.* † Denotes *provisionally accepted.*

BEDLINOG (Glam).—For additions and remodelling the Bedlinog old mixed school as boys' school, for the Glamorgan County Council. Mr. D. Pugh-Jones, County Architect, Cardiff:—

D. Davies, Donald-street, Cardiff* £1,856

BEDWAS.—For erection of twenty-six or more houses, for the Grove Building Club. Mr. Gomer L. Rees, architect and surveyor, Bedwas and Aberfan:—

	Per House.		Per House.
W. J. Brooks & Sons	£235 0	D. Thomas & Sons	£212 0 0
Williams Bros.	235 0	A. Thomas	207 10 0
J. Lewis & Sons	230 0	F. Bristow*	203 5 6
Warlow & Warlow	224 0	Jenkins & Seaton	194 5 0
G. Smith	212 0		

BETTWS (Glam).—For the erection of a new mixed school at Bettws, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., County Architect, Cardiff:—

Knox & Wells, Bangor-street, Cardiff* ... £3,077

BLACKBURN.—For erection of new public halls on Blakey Moat (substructure portion). Messrs. Briggs, Wolstenholme, & Thornely and Messrs. Stones, Stones, & Atkinson, joint architects:—

W. Livesey & Sons	£17,000	J. Whittaker & Sons	£16,130
J. Fecitt & Sons	16,410	E. Lewis & Sons	16,100
T. P. Willson & Sons	16,300	W. J. W. Cronshaw & Sons, Pump-street, Blackburn*	16,000
J. Partington	16,250		
T. Higson & Sons	16,210		

BLAENGARW (Glam).—For the execution of alterations at the Blaengarw Council School, Glam, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., County Architect, Cardiff:—

D. J. Davies, Blaengarw, Glam* £1,685

BRIDGEND (Glam).—For the erection of a domestic science centre at Bridgend, for the Glamorgan County Council. Mr. D. Pugh-Jones, County Architect, Cardiff:—

P. Gaylard, Bridgend* £449

BRYMBO (Denbighshire).—For the construction of a drill hall, miniature rifle range, caretaker's quarters, etc., at Brymbo, for the Territorial Force Association of the County of Denbigh. Mr. C. D. Rutter, architect, Parr's Bank-chambers, Wrexham. Quantities by the architect.—

H. C. Davies	£2,765 7	R. Roberts	£2,598 0
J. B. Woolley	2,750 0	W. H. Wycherly, Pentre, Broughton‡	2,580 0
Treasure & Sons, Ltd.	2,708 18		

‡ Amended and accepted.

CAERPHILLY (Glam).—For laboratory fittings for the Caerphilly New Higher Elementary School, for the Glamorgan County Council. Mr. D. Pugh-Jones, County Architect, Cardiff:—

P. E. Gane, Ltd., Cardiff* £197 8 6

CHIRK.—For construction of a drill-hall, caretaker's house, rifle range, etc., for the Territorial Force Association of the County of Denbigh. Mr. C. D. Rutter, architect, Wrexham. Quantities by architect:—

J. Carden	£2,669 4 10	W. F. Humphreys	£2,008 16 6
H. C. Davies	2,325 0 0	T. L. Davies	1,998 15 0
J. B. Woolley	2,150 0 0	Thomas & Sons, Ltd., Oswestry‡	1,980 0 0
Treasure & Sons, Ltd.	2,141 0 0		
E. H. Nicholas	2,139 0 0		
J. T. Jones	2,135 0 0		

‡ Amended and accepted.

COED POETH (Wrexham).—For the erection of a miniature rifle range at Coed Poeth, near Wrexham, for the Territorial Force Association of the County of Denbigh. Mr. C. D. Rutter, architect, Parr's Bank-chambers, Wrexham:—

T. M. Hughes	£227 0	T. Ll. Davies	£177 12
Graham & Latham, Ltd.	198 15	R. Roberts, Coed Poeth*	168 10
H. C. Davies	194 0		

EYE (Leominster).—For alterations and additions to the Manor House, Eye, near Leominster. Mr. C. M. C. Armstrong, architect, Warwick:—

Collins & Godfrey	£705 0	J. H. Davis, Leominster‡	£598 10
W. Bowers & Co.	664 0		

‡ Accepted with reductions.

GRAYS.—For the erection of additions and alterations at Arthur-street Council School, Grays, Essex, for the Essex Education Committee. Mr. Christopher M. Shiner, A.R.I.B.A., Architect and Surveyor, 7, Adam-street, Adelphi, W.C., and Grays, Essex. Quantities by Mr. G. Silvester, F.S.I.:—

C. S. Foster & Sons	£2,757	G. Brown	£2,290
S. E. Moss	2,518	Dowsing & Davies	2,280
W. E. Davey	2,385	Brown Bros.	2,272
W. Potter	2,375	H. J. Carter, Ltd.	2,175
J. Chessum & Sons	2,359		

LONDON.—For shop front to be erected at No. 389, Brockley-road, S.E., for Messrs. Edwards & Sons, Ltd. Messrs. Norfolk & Prior, architects:—

W. Heath & Sons	£201 12 6	C. Walker	£172 0 0
F. Sage & Co.	197 0 0	E. C. Christmas	112 0 0

RHOSLLANERCHRUGOG (Ruabon).—Accepted for alterations to the Lion Inn, Rhos, Ruabon, for Messrs. Huntley & Mowatt, Island Green Brewery, Wrexham. Mr. C. D. Rutter, architect, Parr's Bank-chambers, Wrexham:—

Jones Bros., Ponkey, Ruabon £140

[Lowest of three tenders received.]

SENGHENYDD (Glam).—For the erection of a new junior school at Senghenydd, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., County Architect, Cardiff:—

J. Williams, Abertridwr, near Cardiff* ... £4,900

TREDEGAR.—For erection of thirty-one houses, for South End Building Club. Mr. A. F. Webb, architect, Blackwood, Mon.:—

	Per House.
S. Arrowsmith	£253 7 6
T. Nodden	216 10 0
J. Newcombe & Son	220 0 0
W. & J. Jenkins	213 0 0
T. Dickenson, Tredegar*	204 15 0

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